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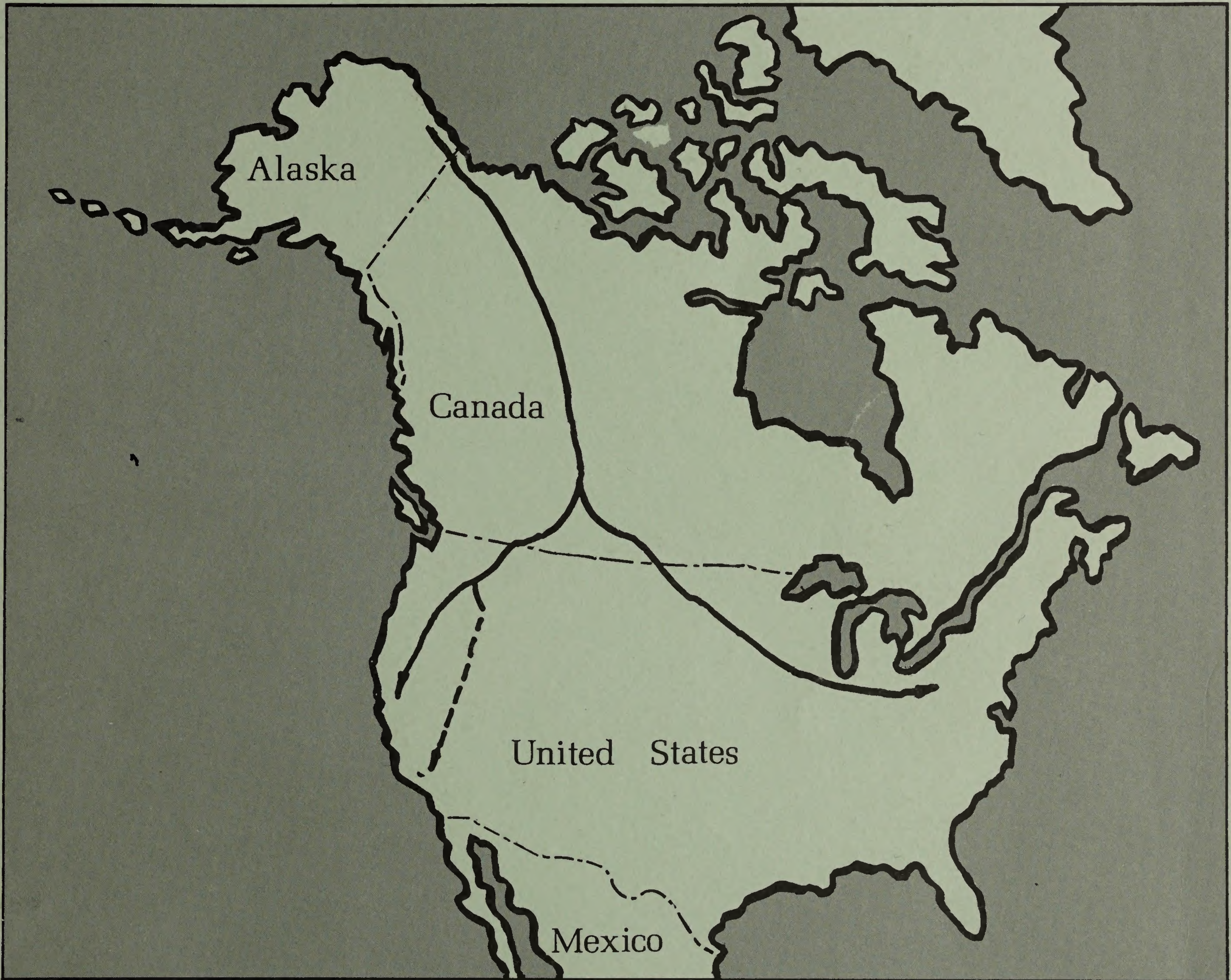
Final Environmental Impact Statement

CONSULTATION AND COORDINATION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MARCH 1976

U.S. DEPARTMENT OF THE INTERIOR

WASHINGTON, D.C. 20240

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ALASKA NATURAL GAS
TRANSPORTATION SYSTEM

Final Environmental Impact Statement

March 1976

This final Environmental Impact Statement has been prepared under the provisions of Section 102(2)(C) of the National Environmental Policy Act of 1969 (P.L. 91-190). Contact regarding the document should be addressed to:

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Alaska Natural Gas Transportation System
Bureau of Land Management (302)
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Transportation System

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SUMMARY

( ) Draft (x) Final Environmental Statement
United States Department of the Interior, Alaska Natural Gas Transportation System EIS Task Force

1. Type of action: (x) Administrative ( ) Legislative

2. Brief description of action: Action pending is granting rights-of-way permits for crossing Federal lands. A 5,580-mile buried pipeline has been proposed to transport natural gas from Prudhoe Bay (Alaska) to markets in the lower United States. The pipeline, as proposed, would cross all, or portions of, Alaska; Yukon Territory, Northwest Territories, British Columbia, Alberta, and Saskatchewan (Canada); and Idaho, Washington, Oregon, California, Montana, North Dakota, South Dakota, Minnesota, Iowa, Illinois, Indiana, Ohio, West Virginia, and Pennsylvania. As proposed, all activities necessary for pipeline construction and operation will be phased over a seven-year period. Of all lands traversed by the proposal, 406 miles will involve lands under the jurisdiction of five Federal agencies, all of whom have permitting authority. Other permits or licenses also must be issued before construction may begin or the project becomes operational.

3. Environmental impact and adverse environmental effects: Because of the linear nature of the proposal, a wide spectrum of environmental impacts will occur if the pipeline is built. Impacts, which are detailed in the Overview and geographically-oriented volumes, will occur on climate, topography, geology, soils, water resources, vegetation, fish and wildlife, social and economic environments, land use and productivity, cultural resources, recreation and esthetics, and air quality (including noise). All impacts will not be adverse.

4. Alternatives considered: Alternatives covered include the courses of action open to the Secretary of the Interior to approve, deny, postpone, or accept and delay or deny part of the proposal; effects of gas deregulation and conservation; other natural gas sources; alternative energy sources and modes of transportation; and one major alternative transportation system involving an all-Alaska gas pipeline, liquefaction plants, and LNG tanker transport to the conterminous United States.

5. Comments have been received from the following: Comments were received from 23 Federal agencies, 35 State and local governments, Canada, 17 companies representing industry, 16 private organizations, 100 individual citizens, and three members of Congress. Comments from Federal agencies, State and local governments, Canada, private organizations, and members of Congress are reproduced in the Consultation and Coordination volume. Other comments will be reproduced and filed as a supplement to this statement at selected repository sites.

6. Date made available to CEQ and the public:

Draft statement: July 28, 1975
Final statement: MAR 1976

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Note for Readers

This environmental impact statement was prepared in response to applications made to the Secretary of the Interior for permits to cross Federal lands with a natural gas pipeline. It identifies and evaluates environmental impacts that could be expected from construction and operation of the "Alaska Natural Gas Transportation System" as proposed by the consortium of companies listed in the Consultation and Coordination volume. It was prepared by an interdisciplinary team, most of whom are employees of the United States Department of the Interior.

Detailed construction designs and detailed plans for site restoration and system operation are not complete at this (proposal) stage of the project. For this reason, some of the impacts and mitigating measures are expressed in ranges of magnitude or qualified to reflect alternative situations.

The Secretary of the Interior considers a number of factors in reaching his decision regarding issuance or denial of right-of-way permits. The environmental impact analysis presented in this statement is an important but not necessarily the deciding factor. Alternative gas transportation systems proposals, United States-Canada diplomatic relations, national economic and risk analyses, national defense implications, energy efficiency analyses, and other factors must also be considered.

This statement is presented in nine volumes as follows:

Overview Volume
Alaska Volume
Canada Volume
San Francisco Volume
Los Angeles Volume

North Border Volume
Alternatives Volume
Consultation and Coordination Volume
Glossary Volume

Alaska, Canada, San Francisco, Los Angeles and North Border Volumes are geographically oriented. The Overview Volume, Alternatives Volume, and Consultation and Coordination Volume are not geographically oriented in their coverage.

The following subject groupings are covered sequentially in each of the geographically oriented volumes and Overview:

1. Description of the proposal.
2. Description of the environment.
3. The environmental impact of the proposed action.
4. Mitigating measures proposed and additional measures considered.
5. Adverse effects which cannot be avoided should the proposal be implemented.

6. The relationship between local short-term uses of (man's resources) and the maintenance and enhancement of long-term productivity.
7. Irreversible and irretrievable commitments of resources associated with the proposed action.
8. Alternatives to the proposed route.

The reader can review particular segments of the proposed project selectively. For example, a reader interested only in impacts on North Dakota, could use the Overview Volume for the system "big picture," and the North Border Volume for coverage of his particular State. Similarly, a person interested primarily in ways of transporting natural gas could refer to the Alternatives Volume and satisfy his needs.

Following is a brief description of the coverage of each part:

Overview Volume - The Overview covers the Arctic Gas System proposal in its entirety. It will be most useful to those readers who want a system view and a broad concept of anticipated environmental impacts of the entire pipeline project.

Alaska Volume - This volume covers the 195-mile proposal of the Alaskan Gas Arctic Pipeline Company originating at Prudhoe Bay and terminating at the Alaska-Yukon Border and alternative routes.

Canada Volume - This portion of the environmental impact statement analyzes the 2,435-mile pipeline proposal of Canadian Arctic Gas Pipeline, Ltd., beginning at the Yukon-Alaska Border and proceeding generally southward to Caroline Junction in Alberta where it forks, one leg entering Idaho, near Kingsgate, British Columbia, and the other entering Montana, near Monchy, Saskatchewan. Discussions of route alternatives are also presented.

San Francisco Volume - This volume analyzes the 917-mile portion proposed by the Pacific Gas Transmission Company which passes through Idaho, Washington, and Oregon to Antioch, California. Discussions of route alternatives are presented.

Los Angeles Volume - This volume relates to the 414-mile portion proposed by Interstate Transmission Associates (Arctic) extending from the point of United States entry in Idaho to Rye Valley, Oregon. It also involves modifications to existing compressor stations in Oregon, Idaho, and Colorado. Discussions of route alternatives are presented. This volume also contains a discussion of the applicant's future proposal for an additional 760-mile pipeline passing through Idaho, Oregon, Nevada, and terminating at Cajon, California.

North Border Volume - This volume is an analysis of the 1,619-mile pipeline proposed by the Northern Border Pipeline Company. It covers the area from the United States-Canada border, crossing Montana, North and South Dakota, Minnesota, Iowa, Illinois, Indiana, Ohio, and West Virginia, to a termination near Delmont, Pennsylvania. Discussions of route alternatives are presented.

Alternatives Volume - This volume covers courses of action open to the Secretary of the Interior to approve, deny, postpone, or accept and delay or deny part of the proposal; effects of gas deregulation and conservation; other natural gas sources; alternative energy sources and modes of transportation; and one major alternative gas transportation system involving an all-Alaska gas pipeline, liquefication plants and tanker transport to the conterminous United States.

Consultation and Coordination - This volume describes and discusses the efforts made by the Department of the Interior to consult with and coordinate its work in the development of this statement. It includes the gathering of basic information for analysis, public meetings, public hearings, and efforts which have and will be made to assure that environmental impacts are adequately treated.

Glossary - This volume provides the reader with definitions of technical words or phrases used in the environmental impact statement.

CONTENTS

9 Consultation and Coordination with Others------------------ 1

9.1 Consultation and Coordination in the Development of the Proposal and in the Preparation of the Environmental Impact Statement-- 1

9.1.1 Development of the Proposal--------------------------------- 1

9.1.2 Preparation of the Draft Environmental Impact Statement----- 4

9.1.2.1 Federal Power Commission - Department of the Interior Cooperation-- 4

9.1.2.2 Termination of Federal Power Commission - Department of the Interior Memorandum of Understanding---------------------- 6

9.1.2.3 Other Agency and Bureau Participation in the Preparation of the Draft Environmental Impact Statement------------------- 8

9.1.2.4 Consultation and Coordination with Canadian Officials and Individuals-- 9

9.1.2.5 Public Participation in the Preparation of the Draft Environmental Impact Statement-------------------------- 9

9.1.2.6 Field Team Consultation and Coordination with State and Local Officials, Private Organizations and Individuals------ 13

9.1.2.7 Work Contracted to Private Companies---------------------- 14

9.1.2.8 Deficiency Meetings-- 14

9.2 Coordination in the Review of the Draft Statement----------- 15

9.2.1 Procedures Used in Disseminating the Draft Statement-------- 15

9.2.1.1 Review Period and Field Hearings------------------------- 15

9.2.2 Distribution of Draft Statement----------------------------- 16

9.3 Preparation of Final Environmental Impact Statement--------- 16

9.3.1 Consultation and Coordination with Representatives of Public Agencies, Applicants, and Others------------------ 16

9.3.2 Analysis of Public Comment---------------------------------- 18

9.3.3 Written Comments Received---------------------------------- 18

9.3.4 Oral Testimony Received------------------------------------ 19

9.3.5 Summary of Public Response---------------------------------- 22

9.3.6 Establishment of Final Environmental Impact Statement Task Force-- 22

9.3.7 Work Contracted to Consultants------------------------------ 24

9.3.8 Handling of Comments in the Final Environmental Impact Statement-- 25

9.3.9 Summary of Comments and Responses-------------------------- 26

ATTACHMENTS

I. List of Companies Associated with the Arctic Gas Study Group---- 47

II. Federal Register, (page 26433, Vol. 39, No. 140, Friday, July 19, 1974) Notice of Memorandum of Understanding with the Federal Power Commission------------------------------- 49

III. Consolidated Environmental Impact Statement Outline for the Interagency Task Force--------------------------------------- 51

IV. Federal Register, (page 40823-40824, Vol. 39, No. 225, Wednesday, November 20, 1974) Notice Pertaining to the Department of the Interior Request to the Chairman of the Federal Power Commission on the El Paso Application---------------------- 63

V. Federal Register, (page 4491-4494, Vol. 40, No. 21, Thursday, January 30, 1975) Notice of the Federal Power Commission Order of January 23, 1975 Denying the Department of the Interior Request on El Paso------------------------------- 65

VI. Federal Register, (page 8578, Vol. 40, No. 41, Friday, February 28, 1975) Notice of Letter from the Secretary of the Department of the Interior to the Chairman of the Federal Power Commission which Abrogated the Memorandum of Understanding--- 69

VII. Letter from Deputy Assistant Secretary Wheeler to the Advisory Council on Historic Preservation Dated February 28, 1975---- 71

VIII. Advisory Council Response to Deputy Assistant Secretary Wheeler Dated March 19, 1975-------------------------------------- 73

IX. Memorandum to Interested Parties Announcing Information Gathering Meetings, Dated December 6, 1974---------------------- 77

X. Federal Register, (page 43232-43233, Vol. 39, No. 239, Wednesday, December 11, 1974) Notice Announcing Information Gathering Meetings in January of 1975-------------------- 79

XI. List of State and Local Agencies and Individuals Contacted by the West Coast Team-- 81

XII. List of State and Local Agencies and Individuals Contacted by the North Border Team-------------------------------------- 83

XIII. Transmittal of DEIS to Preservation Advisory Council, August 13, 1975-- 85

XIV. Preservation Advisory Council Letter of September 9, 1975------- 89

XV. Government Agencies and Organizations Who Received the DEIS for Official Review-- 97

XVI. Chronology of Applications by Applicants---------------------- 107

XVII. Verbatim Copies of Review Comments---------------------------- 113

Federal-- 115

Canadian Government-- 171

State/Local-- 175

Organizations-- 227

Congressional-- 245

LIST OF FIGURES

Figure Page

9-1 Arctic Gas System Applicants--------------------------------- 2

9-2 Map of Arctic Gas System------------------------------------- 3

9.1.1-1 Consultation By Applicant Companies with Federal Agencies Having Project Approval Requirements------------------------- 5

9.1.2.1-1 Alaska Natural Gas Transportation System Interagency Task Force For the Preparation of the Draft Environmental Impact Statement-- 7

9.3.6-1 Alaska Natural Gas Transportation System Interagency Task Force For Preparation of Final Environmental Impact Statement--- 23

9 CONSULTATION AND COORDINATION WITH OTHERS

The Department of the Interior has requested and received the consultation of many organizations and individuals, both public and private, in developing and coordinating the Environmental Impact Statement (EIS) on proposals of the applicant companies to transport natural gas from Alaska to the lower United States. The companies have filed applications with the Federal Power Commission and the Secretary of the Interior for various certificates and permits which are necessary before the proposals can be implemented.

The Arctic Gas Pipeline Project has been proposed by a consortium of companies which now constitute the Gas Arctic Northwest Project Study Group (Attachment I). The Study Group has caused the Alaskan Arctic Pipeline Company and the Canadian Arctic Gas Pipeline, Limited, to be formed and has contributed both in manpower and in money to those corporations which have applied for authority to make arctic gas available to various market areas in the lower United States.

The corporations which have applied to transport gas include:

Columbia Gas Transmission Corporation
Michigan Wisconsin Pipeline Company
Natural Gas Pipeline Company of America
Northern Natural Gas Company
Pacific Gas and Electric Company
Pacific Lighting Gas Development Company
Panhandle Eastern Pipeline Company
Texas Eastern Transmission Corporation

The corporations through the partnerships, subsidiaries, or affiliates, which are summarized in Figure 9-1, have created the actual applicant companies. Figure 9-2 is a map of the overall system.

When formal applications were filed with either the Department of the Interior or the Federal Power Commission, they were placed in a public file. The file contains: all applications, amendments, supplements, environmental assessments, and reports filed by the companies; copies of supplemental information requests and responses; comments from interested persons; and testimony from the information gathering meetings. These materials are available for public scrutiny at the Department of the Interior, 18th and C Sts., N.W., Washington, D.C. and the Federal Power Commission, Room 1000, 825 N. Capitol Street, N.E., Washington, D.C.

In addition to the all-pipeline Arctic Gas Pipeline Project, the EIS describes a LNG (Liquefied Natural Gas) Project. This is a trans-Alaskan, water-based transportation system that would pipe the gas from Prudhoe Bay mainly along the Trans-Alaska Pipeline System Corridor (oil pipeline) and then transport the natural gas via tanker, in liquid form, to port facilities on the West coast.

9.1 CONSULTATION AND COORDINATION IN THE DEVELOPMENT OF THE PROPOSAL AND IN THE PREPARATION OF THE ENVIRONMENTAL IMPACT STATEMENT

9.1.1 Development of the Proposal

The proposals and their related environmental studies, before the Department of the Interior and Federal Power Commission, were developed exclusively by the applicant companies and without the direct involvement of the Federal Government. The applicants consulted with Federal agencies and

	REGION	APPLICANT COMPANIES	CORPORATIONS WHICH HAVE CAUSED APPLICANT COMPANIES TO BE FORMED	INITIAL APPLICATION SUBMITTED	
				FPC	DOI
1	ALASKA	ALASKAN ARCTIC PIPELINE COMPANY	Formed by Arctic-Gas-Northwest Study Group	3-21-74	3-21-74
2	CANADA	CANADIAN ARCTIC PIPELINE CO., LTD	Formed by Arctic-Gas-Northwest Study Group	3-21-74	3-21-74
3	NORTHERN BORDER	NORTHERN BORDER PIPELINE COMPANY	The Northern Border Pipeline Company is a Partnership formed by the following corporations: - Columbia Alaskan Gas Transmission Company (an affiliate of Columbia Gas Transmission Corporation) - American Natural Gas Arctic Company (an affiliate of Michigan Wisconsin Pipeline Company) - NANBCO, Inc. (a subsidiary of Natural Gas Pipeline Company of America) - Northern Plains Natural Gas Company (a subsidiary of Northern Natural Gas Company) - Pan Border Gas Company (a subsidiary of Panhandle Eastern Pipeline Co.) - TETCO Three, Inc. (a subsidiary of Texas Eastern Transmission Corp.)	5-14-74	7-12-74
	WEST COAST				
4	S.F. Line	PACIFIC GAS ELECTRIC COMPANY AND PACIFIC GAS TRANSMISSION COMPANY	The Pacific Gas & Electric Company owns 52.66% of Pacific Gas Transmission Company's Common Stock	3-21-74	12-13-74
5	L.A. Line Kingsgate to California Border	INTERSTATES TRANSMISSION ASSOCIATES (ARCTIC)	- The Northwest Energy Company (a subsidiary of Northwest Pipeline Co.) - Pacific Interstate Transmission Company (a subsidiary of Pacific Gas Lighting Development Company)	5-14-74	11-12-74
	California Border to Cajon, CA	SOUTHERN CALIFORNIA PIPELINE COMPANY	Southern California Pipeline is a wholly-owned subsidiary of Pacific Gas Lighting Development Company	*	11-15-74

* Because this proposal lies wholly within the borders of California, the applicant need not apply to the Federal Power Commission

Figure 9-1 Arctic Gas System Applicants

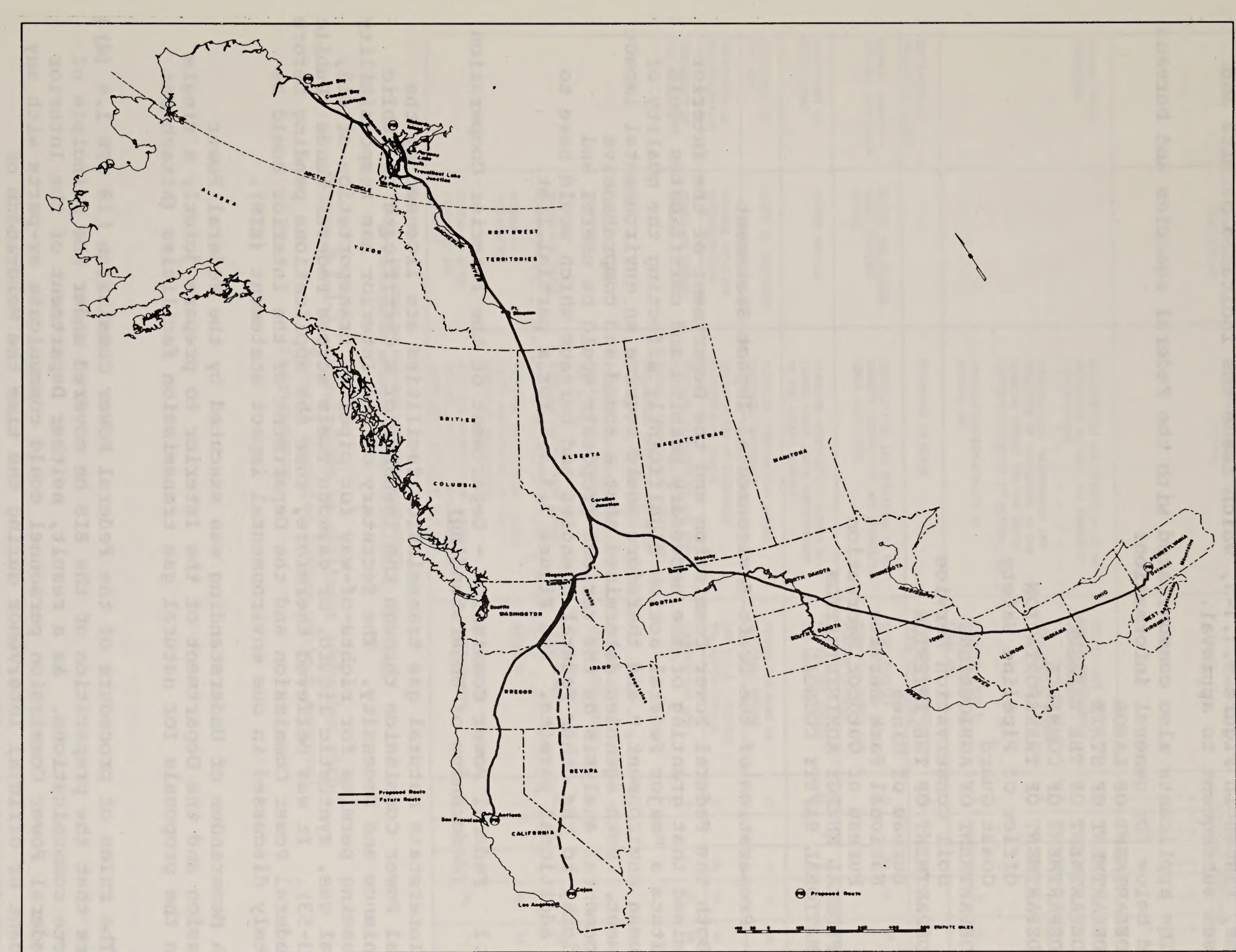

Prudhoe Bay
Camden Bay
ARCTIC CIRCLE
ALASKA
YUKON
Travaillant Lake Junction
NORTHWEST
TERRITORIES
MACKENZIE RIVER
Ft. Simpson
BRITISH
COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
Caroline Junction
Kingsgate
Monchy
MONTANA
WASHINGTON
Seattle
IDAHO
OREGON
NEVADA
CALIFORNIA
San Francisco
Antioch
Cajon
Los Angeles
SOUTH DAKOTA
MINNESOTA
MISSISSIPPI
IOWA
RIVER
ILLINOIS
INDIANA
OHIO
PENNSYLVANIA
Delmont
WEST VIRGINIA
Proposed Route
Future Route
STATUTE MILES

Figure 9-2 Map of Arctic Gas System

bureaus, listed in Figure 9.1.1-1, which issue the indicated permits and licenses subsequent to approval.

The applicants also communicated with the Federal agencies and bureaus listed below for general information:

- DEPARTMENT OF LABOR
- DEPARTMENT OF STATE
- DEPARTMENT OF THE TREASURY
- DEPARTMENT OF COMMERCE
- DEPARTMENT OF TRANSPORTATION
  - Office of Pipeline Safety
  - Coast Guard
- DEPARTMENT OF AGRICULTURE
  - Soil Conservation Service
- DEPARTMENT OF THE INTERIOR
  - Bureau of Mines
  - National Park Service
  - Bureau of Outdoor Recreation
- FEDERAL ENERGY ADMINISTRATION
- NATIONAL SAFETY COUNCIL

9.1.2 Preparation of the Draft Environmental Impact Statement

Both the Federal Power Commission and the Department of the Interior determined that granting of the necessary permits and certificates would constitute a "major Federal action significantly affecting the quality of the human environment," and therefore would require an environmental impact statement. Both agencies determined that a sound and comprehensive environmental analysis on the various proposals would be useful and beneficial to the other Federal agencies and bureaus which would have to issue additional permits. See Figure 9.1.1-1 for a partial list.

9.1.2.1 Federal Power Commission - Department of the Interior Cooperation (Memorandum of Understanding)

Interstate natural gas transmission facilities are licensed by the Federal Power Commission through the issuance of a Certificate of Public Convenience and Necessity. The Secretary of the Interior has responsibility for issuing permits for rights-of-way for pipeline transportation of oil, natural gas, synthetic liquid, or gaseous fuels across Federal lands (Public Law 93-53). It was believed therefore, that the applications pending before the Federal Power Commission and the Department of the Interior could be adquately discussed in one environmental impact statement (EIS).

A Memorandum of Understanding was executed by the Federal Power Commission and the Department of the Interior to prepare jointly a single EIS on the proposals for natural gas transmission facilities (Attachment II).

The rules of procedure of the Federal Power Commission [18 CFR 1.4 (d)] require that the preparation of the EIS be covered under the principle of ex-parte communications. As a result, neither Department of the Interior nor Federal Power Commission personnel could communicate ex-parte with any applicant or official intervenor during the time the Memorandum of Understanding was in effect.

Pursuant to the terms of the Memorandum of Understanding, an Interagency Task Force was established to prepare an EIS. The Secretary of the Interior, in a letter dated May 15, 1974, to the Chairman of the Federal

AGENCY	RESPONSIBLE SUBDIVISION	ACTIVITY REQUIRING APPROVAL	FORM	CONSULTATION BY APPLICANT COMPANIES				
				ALASKA	NBORDER	PCT	ITAA	SOCAL
FEDERAL POWER COMMISSION		CONSTRUCTION AND OPERATION OF AN INTERSTATE NATURAL GAS TRANSMISSION PIPELINE	CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY	C			C	NA
		CONSTRUCTION, MAINTENANCE AND OPERATION OF FACILITIES AT THE CANADIAN BORDER FOR THE IMPORTATION/EXPORTATION OF NATURAL GAS	PRESIDENTIAL PERMIT	C			C	NA
		IMPORTATION/EXPORTATION OF NATURAL GAS	AUTHORIZATION TO IMPORT/EXPORT NATURAL GAS	C			C	NA
ENVIRONMENTAL PROTECTION AGENCY		DISCHARGE OF WATER	DISCHARGE PERMIT WHERE APPLICABLE	C	C			
FEDERAL COMMUNICATIONS COMMISSION	SAFETY AND SPECIAL RADIO SERVICES BUREAU	INSTALLATION AND OPERATION OF MICROWAVE TRANSMITTER AND ASSOCIATED TOWER FACILITIES	RADIO STATION AUTHORIZATION (CONSTRUCTION PERMIT AND STATION LICENSE)	C		NA	NA	NA
DEPARTMENT OF AGRICULTURE	FOREST SERVICE	PIPELINE CONSTRUCTION ACROSS NATIONAL GRASS LANDS ADMINISTERED BY THE FOREST SERVICE	SPECIAL USE PERMIT AND RIGHT-OF-WAY	NA	C	C	C	
DEPARTMENT OF THE ARMY	CORPS OF ENGINEERS	PIPELINE CONSTRUCTION ACROSS NAVIGABLE WATERWAYS	PERMIT FOR WORK IN NAVIGABLE WATERS	C		C	C	NA
DEPARTMENT OF TRANSPORTATION	FEDERAL AVIATION ADMINISTRATION	INSTALLATION OF MICROWAVE TRANSMISSION TOWERS	PER F.A.A. CIRCULAR NO. AC-70-7460-2D	C		NA	NA	NA
DEPARTMENT OF THE INTERIOR	BUREAU OF INDIAN AFFAIRS	PIPELINE CONSTRUCTION AND COMPRESSOR STATION LOCATION ON TRIBAL, INDIVIDUALLY OWNED AND GOVERNMENT OWNED INDIAN LANDS ADMINISTERED BY THE B.I.A.	RIGHT-OF-WAY AND DECREE	C			NA	NA
	BUREAU OF LAND MANAGEMENT	PIPELINE CONSTRUCTION ACROSS PUBLIC LANDS ADMINISTERED BY THE B.L.M.	RIGHT-OF-WAY AND SPECIAL USE PERMIT	C	C	C	C	
	BONNEVILLE POWER ADMINISTRATION	PIPELINE CONSTRUCTION ACROSS ELECTRICAL TRANSMISSION LINES	RIGHT-OF-WAY	NA	NA	C		NA
	BUREAU OF RECLAMATION	PIPELINE CONSTRUCTION ACROSS LANDS ADMINISTERED BY THE BUREAU OF RECLAMATION	EASEMENT	C	C		NA	NA
	BUREAU OF SPORT FISHERIES AND WILDLIFE	PIPELINE CONSTRUCTION ACROSS NATIONAL WILDLIFE REFUGE SYSTEM LANDS ADMINISTERED BY B.S.F.W.	RIGHT-OF-WAY	C	C		NA	NA

KEY: C - APPLICANT HAS CONSULTED WITH APPROPRIATE AGENCY
NA - APPLICANT HAS DETERMINED APPROVAL NOT APPLICABLE TO ITS PROPOSAL

Figure 9.1.1-1 Consultation by applicant companies with Federal agencies having project approval requirements

Power Commission, designated the then Under Secretary, John C. Whitaker, as Interior's Co-Chairman of the Task Force. The Federal Power Commission designated Richard F. Hill as the Federal Power Commission's Co-Chairman of the Task Force. Concurrently, executive directors and project managers were designated by each agency.

In order to implement the terms of the Memorandum of Understanding, the Interagency Task Force established four subject-oriented work groups and four multidisciplinary support teams to gather and analyze information in the field and in defined geographic areas. The Task Force's organization is reflected in Figure 9.1.2.1-1.

In developing the Draft Environmental Impact Statement (DEIS), the field teams drew upon the following sources of information: the applications submitted by the companies; supplemental information filed by the companies in response to questions by the Task Force; field data provided by various agencies; work contracted to firms with special technical expertise; and the original research, analysis and writing completed by the field team members.

A consolidated outline served as the primary mechanism for achieving an integration of the source materials and field drafts of the EIS. It was structured so that each section and subsection of the DEIS could be assembled in a format which facilitated a "systems analysis" of the proposals.

A base consolidated outline was approved by the project managers of the Task Force on July 17, 1974 (Attachment III). Later, the outline was greatly expanded and revised in order to maximize its usefulness to the support teams and work groups.

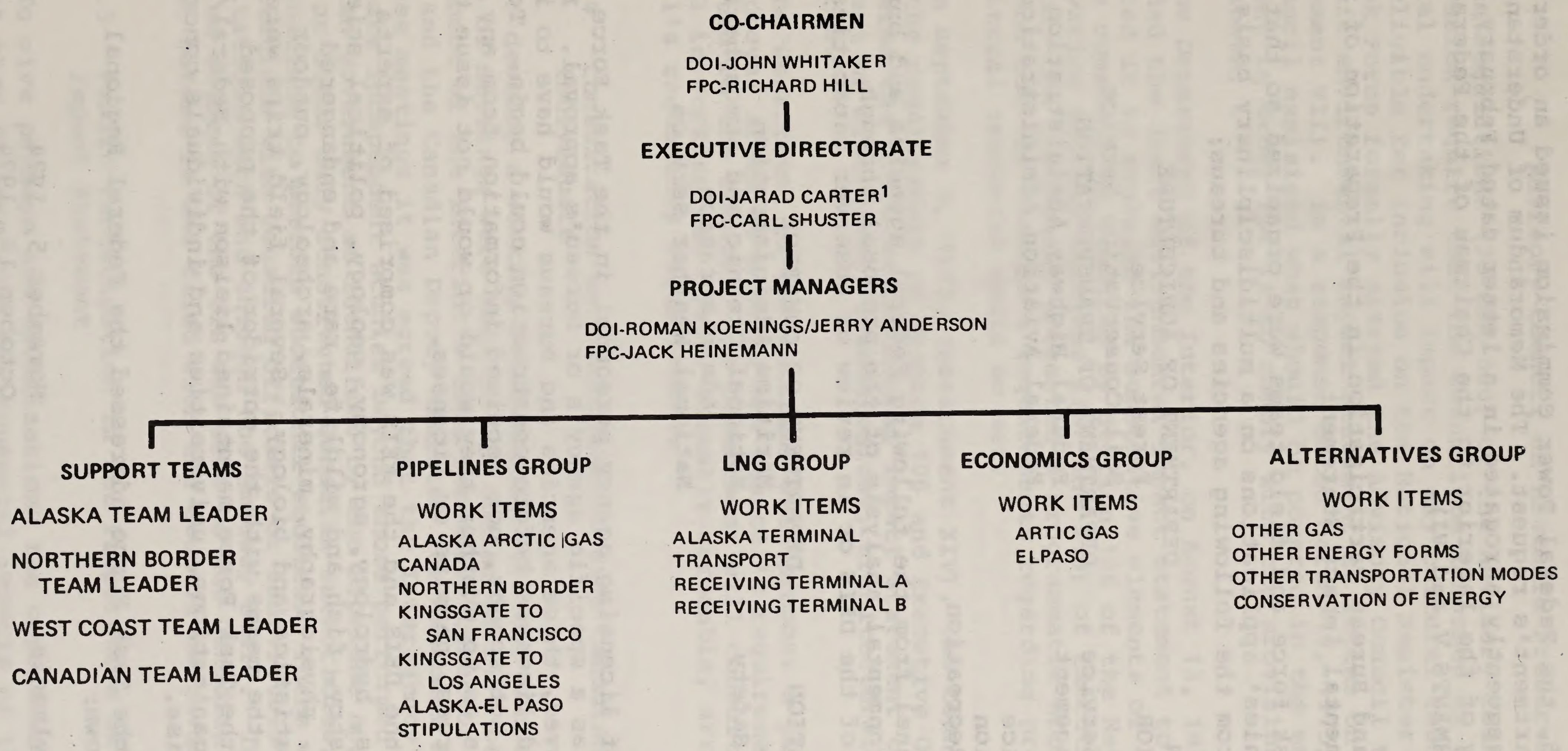
9.1.2.2 Termination of Federal Power Commission - Department of the Interior Memorandum of Understanding

The Memorandum of Understanding to prepare an environmental impact statement (EIS) was predicated upon the then existing applications of the Arctic Gas System (Arctic Gas), and anticipated applications of the El Paso Alaska Company (El Paso). Application was made by the Arctic Gas for Federal right-of-way permits and a Certificate of Public Convenience and Necessity to construct and operate a natural gas pipeline on a land-based route.

El Paso filed an application with the Federal Power Commission for the applicable certificate on September 24, 1974. The El Paso Company had indicated its intention to file an application with the Department of the Interior for the Federal permits for rights-of-way required to enable its use of Federal lands in Alaska. The company, however, did not file an application.

Since the Interagency Task Force was evaluating potential natural gas delivery systems for the North Slope gas, and since El Paso had developed a possible alternative, the Interior Department urged the company to file the necessary applications.

The Department of the Interior, in a letter dated November 12, 1974, to the Federal Power Commission, requested that the Commission not take any action on the El Paso application unless or until the El Paso Company filed the requisite applications with the Interior Department (Attachment IV).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FPC-RICHARD HILL
EXECUTIVE DIRECTORATE
DOI-JARAD CARTER[1]
FPC-CARL SHUSTER
PROJECT MANAGERS
DOI-ROMAN KOENINGS/JERRY ANDERSON
FPC-JACK HEINEMANN
SUPPORT TEAMS
ALASKA TEAM LEADER
NORTHERN BORDER TEAM LEADER
WEST COAST TEAM LEADER
CANADIAN TEAM LEADER
PIPELINES GROUP
WORK ITEMS
ALASKA ARCTIC GAS
CANADA
NORTHERN BORDER
KINGSGATE TO SAN FRANCISCO
KINGSGATE TO LOS ANGELES
ALASKA-EL PASO
STIPULATIONS
LNG GROUP
WORK ITEMS
ALASKA TERMINAL
TRANSPORT
RECEIVING TERMINAL A
RECEIVING TERMINAL B
ECONOMICS GROUP
WORK ITEMS
ARTIC GAS
ELPASO
ALTERNATIVES GROUP
WORK ITEMS
OTHER GAS
OTHER ENERGY FORMS
OTHER TRANSPORTATION MODES
CONSERVATION OF ENERGY

[1] SUCCEEDED BY WILLIAM A. LYONS 1/1/75

Figure 9.1.2.1-1 Alaska Natural Gas Transportation System Interagency Task Force for the preparation of the Draft Environmental Impact Statement

On January 23, 1975, the Federal Power Commission issued an order which denied the Interior Department's request. The Memorandum of Understanding for a joint EIS was subsequently abrogated in a letter dated February 20, 1975, from the Secretary of the Interior to the Chairman of the Federal Power Commission (ATTACHMENTS V and VI).

9.1.2.3 Other Agency and Bureau Participation in the Preparation of the Draft Environmental Impact Statement

The Interagency Task Force and field teams were organized so that each could analyze the companies' applications on a multidisciplinary basis. The staffs were assembled from the following agencies and bureaus:

FEDERAL POWER COMMISSION
DEPARTMENT OF THE INTERIOR
- Bureau of Mines
- Fish and Wildlife Service
- Bureau of Land Management
- Geological Survey
- National Park Service
- Bureau of Reclamation
- Bureau of Outdoor Recreation

DEPARTMENT OF AGRICULTURE
- Forest Service
- Soil Conservation Service

DEPARTMENT OF TRANSPORTATION
- Federal Highway Administration
- Federal Aviation Administration

In addition, personnel from the following Federal agencies and bureaus contributed to the environmental analysis of the proposal through preparation of sections of the DEIS or in review or observer capacities:

DEPARTMENT OF TRANSPORTATION
- Coast Guard
- Office of Pipeline Safety

DEPARTMENT OF THE ARMY
- Corps of Engineers

DEPARTMENT OF COMMERCE
- Maritime Administration
- National Oceanic and Atmospheric Administration
- National Weather Service

The participation of licensing agency personnel in the Task Force should not be construed as a specific agency's or bureau's approval. If the project were to be approved, these agencies and bureaus would have to issue the requisite permits and licenses before construction could begin. To date, the Task Force has not sought, nor received information from any of these agencies or bureaus as to whether they would or would not issue the requisite easements, decrees, permits or licenses.

The Task Force for the DEIS and the FEIS was comprised of experts in the fields of: economics, hydrology, agronomy, geology, political science, engineering, soils, forestry, fish and wildlife, rare and endangered species, water resources, physiography, minerals, archeology, outdoor recreation, planning, statistics and biology. Several field trips were conducted to familiarize the teams with the corridor of the proposed pipeline. In addition, the Task Force maintained liaison with Federal/state agencies, industries, organizations, universities and individuals concerning specific areas of expertise.

Representatives of the Task Force addressed the Federal Regional Councils on the dates shown:

Philadelphia, Pennsylvania	November 5, 1974
Chicago, Illinois	October 18, 1974
Denver, Colorado	October 15, 1974
San Francisco, California	October 1974
Seattle, Washington	September 1974

Advisory Council on Historic Preservation

The regulations (36 CFR 800) of the Advisory Council on Historic Preservation require that the Council be informed as early as possible when a Federal undertaking will impact on any cultural resources, especially those eligible for inclusion on the National Register of Historic Places. The Task Force formally alerted the Advisory Council to the preparation of the draft environmental impact statement by letter on February 28, 1975, (Attachment VII). In a response dated March 19, 1975, (Attachment VIII), the Council explained what should be covered in the environmental impact statement in order for it to comply with the provisions of its regulations cited above.

The Department of the Interior, on August 13, 1975, (Attachment XIII), forwarded the draft environmental impact statement to the Council and requested it to evaluate the substantive elements of the statement and to provide comments as required by Section 106 of the National Historic Preservation Act and Sections 2(b) and 1(3) of Executive Order 11593. In addition, the Department presented a programmatic approach in which it explained how the Council's requirements regarding protection of historic and cultural resources would be met.

On September 9, 1975, (Attachment XIV), the Council responded that until the requirements of Section 106 and Executive Order 11593 were met, it considered the draft environmental impact statement to be incomplete in its treatment of historical, archeological, architectural, and cultural resources.

The Department of the Interior will propose a plan to the Council for its approval aimed at meeting the Council's requirements. After the plan is submitted to the Council, the Department will consult further with the Council in working out final, mutually agreeable, arrangements to meet the Council's regulatory requirements.

9.1.2.4 Consultation and Coordination with Canadian Officials and Individuals

To develop a working relationship with the Canadian government, a series of meetings were held in the Spring of 1974 between Jared Carter, Department of the Interior's then Executive Director of the Interagency Task Force and the Canadian Deputy Minister for External Affairs. In the course of these meetings it was agreed that the Interagency Task Force would not undertake independent studies beyond those performed by or on behalf of the Canadian government as identified by the Pipeline Application Assessment Group or other duly constituted Canadian authorities, nor would it request the Canadians to perform additional studies. There were no further consultations with Canadian officials or individuals other than consultations with and through the Embassy staff. The working draft of the Canadian segment of the EIS was sent to the Canadian Embassy for review and comment before it was filed with the Council on Environmental Quality.

9.1.2.5 Public Participation in the Preparation of the Draft Environmental Impact Statement

To give persons and organizations the opportunity to comment in advance on what they believed the environmental impacts of the proposed actions would be, the Task Force, in January, 1975, held information gathering meetings at eleven locations throughout the country.

The meetings were held in the following places:

Alaska	
Anchorage	January 10, 1975
Fairbanks	January 8, 1975
Juneau	January 6, 1975
North Border	
Billings, Montana	January 7, 1975
Chicago, Illinois	January 9, 1975
Bismarck, North Dakota	January 15, 1975
West Coast	
Sacramento, California	January 7, 1975
Portland, Oregon	January 9, 1975
Spokane, Washington	January 13, 1975
Reno, Nevada	January 15, 1975
Washington D.C.	January 7, 1975

Each meeting had a morning, afternoon, and evening session so that all interested persons could participate. Three hundred and eighty (380) people attended the eleven (11) public meetings. Thirty-six (36) written statements were given and thirty-eight (38) oral statements were made. The oral statements and comments were either tape recorded or transcribed by a court reporter. Both are part of the public file maintained by the Department of the Interior, Washington, D.C.; and the Federal Power Commission, Washington, D.C. The statements were considered in the preparation of the DEIS.

An additional period of time was set aside after the information gathering meetings to allow persons to comment further on the environmental impacts. It was suggested that they be filed by January 15, 1975. Regardless of the date received, they were considered by the writing teams. During this period, approximately 130 written comments were received by the Task Force.

Persons who submitted comments at the Information Gathering Meetings are listed below:

ANCHORAGE MEETING

Jack Hession	Sierra Club
Wesley Gregg	Representing Congressman Don Young
Nancy Gross	Individual
Alvin Bramstead	Individual

JUNEAU MEETING

Avrum Gross	Attorney General of Alaska
Ernest Mueller	Department of Environmental Conservation
Walter B. Parker	Commissioner of Highways
Kevin Waring	Department of Community and Regional Affairs
James Brooks	Alaskan Department of Fish and Game
E.O. Bracken	Individual

FAIRBANKS MEETING

Harold Gilliam	Mayor of Fairbanks
G.A. Seelinger	Fairbanks Industrial Development Corp.
Stan Senner	Fairbanks Environmental Center
Jerry Sinetzer	Fairbanks Town & Village Assoc. for Development
Gail Mayo	Alaskan Conservation Society, T-Y Chapter
Joe Larocca	Fairbanks Town & Village Assoc. for Development
Dr. Cook	Individual
Dr. Wood	Individual
Bob Rogach	Individual
Joe Volger	Individual
Chuck Reese	Individual
Stanley Gavarey	Individual
Gary Farnsworth	Individual

SPOKANE MEETING

Dick Schmidt	Individual
Edgar Widman	Individual
Marian Miller	Individual
Maurice A. Vogel	Individual
M.C. Haggin	Individual
Ronald J. Dube	Individual
John B. Sutherland	Individual

PORTLAND MEETING

Roy Hirai	Individual
Joe Walicki	Oregon High Desert Study
Larry Williams	Oregon Environmental Society
Alan Larsen	Friends of the Earth
Sam E. Hartley	Malheur County Commissioner's Office
David H. Corkran	Individual
Charlotte Corkran	Individual
James Monteith	Individual
Robert L. Robinson	Individual
Loren W. Hughes	Individual
Stephen D. Orsini	Individual

SACRAMENTO MEETING

Larry E. Moss	Sierra Club
Dean H. Gaumer	Soc. for Calif. Archaeology, District III

RENO MEETING

Susan Orr	Forest Institute
James Friedlanger	Carson River Basin Council of Government
Joe Ratliff	Individual
H.R. Conrad	Individual
M. Douglas Miller	Individual
William Engle	Individual
Ivan Sack	Individual
Charles Watson	Individual
Tina Nappe	Forest Institute
Dave Boroughf	Individual
Marjorie Sill	Individual
Bill Phillips	Individual

BILLINGS MEETING

Carl R. Anderson	Montana Power Company
Joe Day	Fort Peck Tribal Council

BISMARCK MEETING

Ike Ellison	Governor's Office
John Dersch	U.S. Forest Service - McKenzie Ranger District
Bruce Hagan	N. Dakota Public Service Commission
Donald Aho	Soil Conservation Service
Floyd Obenouer	Obenouer Construction
Nick Franke	State Historical Society of N. Dakota
William A. Buresh	Wildlife Society - N.D. Chapter
Lynn Bergman	Engineer Dept. - City of Bismarck
Glenn McCrory	Individual

CHICAGO MEETING

Paul Friesma	Director of Public Lands Projects

WASHINGTON, D.C. MEETING

Brock Evans	Sierra Club
James G. Deane	Wilderness Society

Consistent among the statements and written comments were the following observations:

The pipeline should not be allowed to cross the Arctic National Wildlife Range.

The schedule for the preparation of the DEIS was too short.

The advance notice given for the information gathering meetings was inadequate, as were the materials which accompanied the notice.

The Task Force should provide more data on the alternatives to the proposed action prior to additional hearings.

The Task Force should consider an alternative route within the Trans-Alaskan Oil Pipeline corridor south through the Brooks Range, thence eastward to Canada via Fairbanks along the railroad or highway.

No port facilities should be constructed at Point Conception, California; such facilities should be placed near Oxnard, California where industrial installations already exist.

Point Gravina, Alaska should not be disrupted. The terminal should be established at Cook Inlet, Alaska.

A wide cross-section of groups and individuals were notified of the opportunity to participate in the information gathering meetings through distribution of an information packet. The packet outlined the scope of the proposed action and invited persons to participate in the meetings or submit comments directly to the Task Force (Attachment IX).

The packets were distributed to: 1500 private groups and individuals; the Federal Power Commission's list of all intervenors in any of the Arctic Gas System dockets; and the Federal officials and Governors of the states (listed below) which would be impacted by the proposals:

Alaska
Arizona
California
Colorado
Idaho
Illinois
Indiana
Iowa
Maryland
Michigan
Minnesota
Montana
Nebraska
Nevada
North Dakota
Ohio
Oregon
Pennsylvania
South Dakota
Utah
Virginia
Washington
West Virginia
Wisconsin
Wyoming

In addition to the mailings described above, a notice was published in the Federal Register which notified interested parties of the upcoming information gathering meetings (Attachment X).

9.1.2.6 Field Team Consultation and Coordination with State and Local Officials, Private Organizations and Individuals

Alaska

During the time the Task Force was operating in accordance with the Memorandum of Understanding, the Alaska team held no consultations with the state agencies of Alaska, nor with the Joint Federal-State Land Use Planning Commission because both were formal intervenors in the Federal Power Commission's Docket No. 75-96 et al., and thus were covered by the limitations of ex-parte communications. However, the Attorney General of Alaska and Departments of Environmental Conservation, Community and Regional Affairs, Fish and Game, and Highways presented oral and written testimony at the information gathering meeting in Juneau, Alaska on January 6, 1975.

West Coast

The West Coast team contacted thirty-three (33) state and local agencies and individuals during the preparation of the DEIS. Among the officials contacted were State Fish and Game Departments, Department of Natural Resources, State Historic Preservation Officers, various county historical societies and museums, and universities (Attachment XI).

North Border

During the preparation of the DEIS, the North Border writing team contacted eighty-four (84) state and local agencies and individuals for information. These contacts included: county engineers, zoning administrators, and planning officials; state agencies responsible for environmental resources, pollution control, and transportation; and various local governmental jurisdictions (Attachment XII).

9.1.2.7 Work Contracted to Private Companies

Two contracts were awarded by the Department of the Interior for substantive data collection for use in the DEIS. In each case a team member was assigned to serve as liaison with the companies.

The Aerospace Corporation

The Aerospace Corporation (Energy and Resources Division, El Segundo, California 90245) under Contract 80550-CT5-13 from the Bureau of Land Management, conducted a geotechnic evaluation of the entire Arctic Gas System. Its evaluation was directed at identification of critical factors that would adversely affect the integrity of the transportation system, thereby, posing a potential threat to the environment.

The material reviewed by the Aerospace Corporation, consisted of the applicants' Environmental Report; applications for Certificate of Public Convenience and Necessity; alignment charts; and numerous answers prepared by the applicants to questions posed by the Interagency Task Force, which included reports prepared by other organizations in support of the applicants' submission.

Engineering Dynamics, Inc.

Engineering Dynamics, Inc. (6551 S. Wellington Court, Littleton, Colorado 80121), under contract 52500-CGS-1024 from the Bureau of Land Management, provided technical assistance and working draft documents for portions of the North Border and West Coast segments. They analyzed potential air, water, noise and solid waste pollution. Additionally, they prepared the section of the North Border statement which analyzed the irreversible commitment of resources which would be required by the proposed action. The research data generated under this contract was not presented as a separate report, but was incorporated into the other sections of the DEIS which the writing teams had prepared.

9.1.2.8 Deficiency Meetings

Each company filed its initial applications with the Interior Department from March 21, 1974 to December 13, 1974. This was an extended filing period which prevented the Task Force from reviewing comprehensively the applicants' materials until late November, 1974. After the Task Force had determined what additional information was needed, a letter was sent to the companies which requested additional submissions and scheduled a series of technical conferences between Task Force members and the companies or their representatives. The conferences provided a forum through which the Task Force and the applicants could exchange information and clarify ambiguities in the applications. The meetings were held on December 3, and 17, 1974 and January 30, 1975. In accordance with the regulations of the

Federal Power Commission, all interested parties on the service list were notified of the meetings and invited to attend. (See Attachment XVI.)

At the meetings the companies were asked to respond as quickly as possible to the Task Force's requests. The applicants responded during December, January, and February, with the final submissions completed on February 25, 1975. During this period, the companies also filed six supplemental applications or reports which the Task Force considered in writing the DEIS.

9.2 COORDINATION IN THE REVIEW OF THE DRAFT STATEMENT

9.2.1 Procedures Used in Disseminating the Draft Statement

The draft environmental impact statement was filed with the Council on Environmental Quality on July 25, 1975, and was widely circulated simultaneously to official reviewing agencies, interested persons and private organizations.

9.2.1.1 Review Period and Field Hearings

A ninety (90) day review period allowed the draft environmental impact statement (DEIS) to be reviewed as comprehensively as possible.

Two months after the release of the DEIS, public hearings were held in the following locations to receive comments:

Anchorage, Alaska	Sept. 25-26, 1975
Billings, Montana	
Chicago, Illinois	
Portland, Oregon	
Fairbanks, Alaska	Sept. 29-30, 1975
Bismarck, North Dakota	
Sacramento, California	
Spokane, Washington	
Juneau, Alaska	Oct. 1-2, 1975
Reno, Nevada	
Washington, D.C.	

After its release, the DEIS and the companies' applications were available for review at the following places:

ALASKA:
Bureau of Land Management
Alaska State Office
555 Cordova Street
Anchorage, Alaska 99501

WEST COAST:
Bureau of Land Management
Oregon State Office
729 N.E. Oregon Street
Portland, Oregon 97208

Bureau of Land Management
California State Office Room E-2841
2800 Cottage Way
Sacramento, California 95825

Bureau of Land Management
Nevada State Office, Room 3008
300 Booth Street
Reno, Nevada 89502

NORTH BORDER:
Montana State Office
316 N. 26th Street
Billings, Montana 59101

Office of the Special Assistant to
Secretary of the Interior
32nd Floor
230 S. Dearborn Street
Chicago, Illinois 60604

WASHINGTON, D.C.
Bureau of Land Management (302)
18th & C Sts., NW
Washington, D.C. 20240

Copies of the DEIS were also sent throughout the country to depository libraries designated to receive and store governmental publications.

9.2.2 Distribution of Draft Statement

The draft statement was sent for official review to the Federal, state, and local agencies and individuals listed in Attachment XV.

9.3 PREPARATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT

9.3.1 Consultation and Coordination with Representatives of Public Agencies, Applicants, and Others

During the preparation of the final environmental impact statement, the Alaska team contacted the following:

DEPARTMENT OF AGRICULTURE
Forest Service
Institute of Northern Forestry
Soil Conservation

DEPARTMENT OF THE INTERIOR
Alaska Power Administration
Bureau of Land Management
Bureau of Indian Affairs
Bureau of Mines
Bureau of Outdoor Recreation
Fish and Wildlife Service
Geological Survey
National Park Service

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Federal Highway Administration
Coast Guard
Materials Transportation Board

DEPARTMENT OF THE ARMY
Corps of Engineers

DEPARTMENT OF COMMERCE
  Maritime Administration
  NOAA (National Weather Service)
  National Marine Fish Service

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

ENVIRONMENTAL PROTECTION AGENCY

The West Coast teams consulted with the Sierra Club (Toyiabe) Chapter, individuals having knowledge of certain geographic areas, as well as officials of the following:

U.S. Department of Agriculture-Forest Service
Bureau of Land Management
Corps of Engineers
State Fish and Game Departments
University of Idaho-Wildlife School
University of Nevada, Reno
Nevada Historical Society
City of Spokane, Washington, City Plan Commission
Deep Springs College, California
San Bernadino County Museum

The North Border team contacted officials of the following:

Bureau of Land Management
U.S. Fish and Wildlife Service
Iowa Conservation Commission
South Dakota State University
Nature Conservancy, Minneapolis Regional Office
Southwest Pennsylvania Regional Planning Commission
Illinois Department of Conservation

Technical interchange meetings were held late in October 1975 to obtain additional information on the proposed U.S. pipelines. Individual meetings were held with each of the applicants. The meetings were attended by representatives of the applicants, Aerospace Corporation and the Department of the Interior. Three of the meetings were held in Denver, Colorado on October 20, 22 and 23, 1975. A fourth meeting was held in Calgary, Alberta on October 27-28, 1975.

On October 20, 1975, a group representing Northern Border Pipeline Company met with Alaska Natural Gas Transportation System (ANGTS) Task Force members and consultants in Denver. Companies represented were: Columbia Gas Systems, Ecology and Environment, Inc., Natural Gas Pipeline Company of America, Northern Natural Gas Company, and Williams Brothers Engineering Company. After a film on the installation of a 36-inch diameter pipeline, 1200 pounds per square inch gauge, was shown by Northern Border, a set of written questions prepared by the Department of the Interior (DOI) was discussed and answered in some detail. Major topic areas were: 1) clarification of the configuration of the currently proposed pipeline, 2) engineering and geotechnic aspects of the proposed pipeline, and 3) environmental questions.

A meeting was held on October 22, 1975, in Denver with representatives of Interstate Transmission Associates (Arctic), [ITA(A)], and the applicants for the Los Angeles pipeline. Companies represented were Northwest Pipeline Company, Southern California Gas Company and Woodward-Clyde Consultants. In addition to discussion of the set of questions prepared by DOI, a draft of the ITA(A) comments on the DEIS was reviewed. Topics included: 1) clarification of the configuration of the currently proposed pipeline, 2) engineering and environmental questions, and 3) questions raised in the geotechnic report. Conclusions included: 1) the current ITA(A) application is for a pipeline only as far south as Rye Valley, Oregon, 2) extension to Cajon, California is a future possibility, and 3) DOI will include a discussion of the extension to Cajon, California in the Final Environmental Impact Statement (FEIS).

On October 23, 1975, a group representing the applicants for the San Francisco Pipeline met in Denver with ANGTS Task Force members and consultants. Companies represented were Pacific Gas Transmission Company (PGT), Earth Sciences Associates and Pacific Gas and Electric Company (PG&E). The major problem to be resolved was which pipeline should be discussed in the FEIS as the primary line. PGT and PG&E had several active applications, none of which was considered primary. Since the route for this segment of the pipeline is the same for all of the applications, it was decided that the largest capacity (2,180 million standard cu. ft. per day) system proposed by PGT and PG&E should be discussed in the FEIS.

A meeting was held in Calgary on October 27 and 28, 1975, with the applicant for the Alaska pipeline. In addition to Alaskan Arctic Gas Pipeline Company (AAGPC) representatives, there was a large contingent of specialists from Northern Engineering Services Company, Limited (NESCL). Discussion was centered on questions related to the geotechnic evaluation and a review of AAGPC comments on the DEIS and on the March 15 geotechnic evaluation. The major result of the meeting was that a large amount of new data on arctic construction was made available to DOI. In addition the group visited the NESCL laboratory and field simulations of frost heave effects.

In addition to these meetings, North Dakota Governor, Arthur Link, requested a briefing for himself and The State's Natural Resources Council. The briefing was held in Bismarck on September 18, 1975.

The assistant project manager headed a team of technical experts making the presentations. Time was allowed for questions and comments from those present.

9.3.2 Analysis of Public Comment

The draft environmental impact statement (DEIS) was filed with the Council on Environmental Quality on July 25, 1975, and a notice of its availability was published in the Federal Register on July 28, 1975. Ninety (90) days were allowed for submission of comments. However, numerous responses were received after the 90-day review period, and they were also considered.

Approximately 1,500 sets of the 17-volume DEIS were initially distributed to the Canadian government, Governors, Congressional members, State and area Clearinghouses, private organizations, environmental groups, industries, universities, libraries and others.

During the review period, an additional 1,000 sets were distributed in response to specific requests.

9.3.3 Written Comments Received

Four hundred fifty (450) documented responses were received as a result of solicitation by news releases, Federal Register notices, distribution of the draft environmental impact statement, and in connection with the eleven public hearings.

9.3.4 Oral Testimony Received

Public hearings were held in Anchorage, Juneau, and Fairbanks, Alaska; Portland, Oregon; Spokane, Washington; Sacramento, California; Reno, Nevada; Billings, Montana; Bismarck, North Dakota; Chicago, Illinois; and Washington, D.C. during the period September 25 - October 3, 1975. The hearings were held for the express purpose of receiving views, comments, and suggestions from anyone. At the conclusion of each witness, members of the hearing panel asked questions in the interest of clarifying testimony.

Three hundred ninety-nine (399) people attended the 11 public hearings. Eighty-five (85) speakers offered oral statements and 58 written statements were submitted. The oral statements were transcribed by a reporting service in each location. The transcripts totaled 600 pages exclusive of written statements. A complete transcript of each public hearing, plus written statements, is available for public inspection at the Department of the Interior, Bureau of Land Management, Washington, D.C. Transcripts and written statements were forwarded to the appropriate writing teams for consideration in the final environmental impact statement.

Administrative Law Judges John Cook, Robert Mesch, John R. Rampton, Jr., Rudolph Steiner, and Dean F. Ratzman from the Interior's Office of Hearings and Appeals conducted the hearings. A panel of officials representing Fish & Wildlife Service, Bureau of Outdoor Recreation, Bureau of Land Management, Geological Survey and the Bureau of Reclamation from the Department of the Interior, and Soil Conservation Service of the Department of Agriculture received the testimony.

The following persons submitted oral testimony at the 11 public hearings:

Billings, Montana

Joe Day	Fort Peck Tribal Executive Board
Randall Gloege	Friends of the Earth
Tom Smith	Montana Power Company

Spokane, Washington

Ronald J. Dube	Individual
G.W. Greeley	Operating Engineers Local 370
Morey Haggin	National Audubon Society
Philip E. Reynolds	Pacific Gas Transmission Company
William W. Sawyer	Interstate Transmission Associates (Arctic)
Pete Wyman	Spokane Falls Community College

Sacramento, California

Judith Clark	Friends of the Earth
Virginia Jane Gleadall	Sierra Club of California
Peter Hanschen	Pacific Gas & Electric and Pacific Gas Transmission
Bill Press	California Office of Planning & Research
Russell Rowley	Individual
R.J. Sherwin	Individual
Dr. Arden Walters	Interstate Transmission Associates (Arctic)
Florence R. Webb	Individual

Washington, D.C.

William J. Brackett	Alaskan Arctic Gas Pipeline Company
Robert B. Catell	Brooklyn Union Gas Company and New York Gas Group
Susan Flounder	Individual
Paul Hansen	Individual
Jack Hession	Sierra Club
Jim Kowalsky	Friends of the Earth
J. David Mann	Penn Fuel Gas
James D. McKinney	Northern Border Pipeline Company
Dr. Arden B. Walters	Southern California Gas Company
Joseph F. Weiler	Texas Eastern Transmission Corporation and Transwestern Pipeline Company
A.T. Wright	The Wilderness Society
Stephen Young	National Audubon Society

Reno, Nevada

Eldon T. Dobyns	Sierra Pacific Power Company
William F. Engel	Nevada State Highway Department
Richard Gerish	Individual
Jane Goichman	Interstate Transmission Associates (Arctic)
John E. Mawby	Deep Springs College
M. Douglas Miller	Nevada Advisory Mining Board
Robert H. Powell	Individual
Reed Secord	Individual
Marjorie Sill	Regional Conservation Commission of the Sierra Club
Robert R. Wright	Nevada Cattle Association

Portland, Oregon

Peter W. Hanschen	Pacific Gas Transmission Company
Roy Hirai	Malheur County Court
Robert S. Robinson	Individual
William M. Sawyer	Interstate Transmission Associates (Arctic)
Gary Walker	Pacific Gas Transmission Company
Larry Williams	Oregon Environmental Council

Chicago, Illinois

Merle W. Arr	Natural Gas Pipeline Company of America
Edward D. Callahan	Columbia Gas Systems Service Corporation
Ms. Holderman	Illinois State Department of Conservation
Russell A. Sault	Northern Illinois Gas Company
Eugene M. Shorb	Northern Indiana Public Service Company
Joseph P. Thomas	Peoples Gas, Light & Coke and North Shore Gas Company

Bismarck, North Dakota

Bernard Alt	United States Forest Service
Edward J. Englerth	North Dakota Natural Resources Council
Austin Engle	State Planning Division for North Dakota
Bruce Hagan	Public Services Commission -- North Dakota
Gary Helgesen	Office of the Attorney General -- North Dakota
Lavonne Holz	Individual
Norman Peterson	Division of Pollution Control for the North Dakota State Department of Health
Gary Puppe	State Soil Conservation Commission
Roger Sanders	Arnegard-Alexander Soil Conservation District

Anchorage, Alaska

Frederick Boness	Attorney General for the State of Alaska
Homer Burrell	Individual
Virginia dal Piaz	Upper Cook Inlet Chapter of the Alaska Conservation Society
Ginny Harris	Alaska Chapter of the Sierra Club
Jerry McCutcheon	Individual
Peter Scholes	Alaska Center for the Environment
Burt Tarrant	Alaskan Arctic Gas Pipeline Company

Fairbanks, Alaska

Wally Baer	Greater Fairbanks Chamber of Commerce
Carl S. Benson	Individual
Mike Cook	Fairbanks Chamber of Commerce
Don Gilbert	Fairbanks North Star Borough
Kevin Harun	Individual
Don Hopkins	Planning and Research, State Department of Development
Celia Hunter	Alaska Conservation Society
David Kline	Alaska Chapter of the Wildlife Society
William Morrice	City of Valdez
Peyton Phillips	Individual
Stan Senner	Federation of Western Outdoor Clubs
Daniel Swift	Individual
Burt Tarrant	Alaskan Arctic Gas Pipeline Company
Jim Thompson	Individual
Gordon Wright	Fairbanks Environmental Center

Juneau, Alaska

A.W. Boddy	Alaska Wildlife Federation and Territorial Sportsman
Irving Nelson	Alaska Wildlife Federation and Sportsmen Council
Burt Tarrant	Alaskan Arctic Gas Pipeline Company

9.3.5 Summary of Public Response

The review of the Draft Environmental Impact Statement (DEIS) and public hearings, generated over 2,500 pages of comments and testimony. Nearly 1,200 pages of comments were prepared by the applicants and their affiliate members. A wide variety of opinions were expressed by the respondents. Comments ranged from support of the proposed pipeline project, to the DEIS being inadequate. The most pervading concern voiced by all groups, except industry, was the effect of the pipeline on conservation systems such as ranges, preserves, refuges, etc. The Arctic National Wildlife Range in Alaska and the Starved Rock State Park and Nature Preserve in Illinois were the two areas most commonly mentioned. The power companies' major concern was that insufficient attention was given to the consequences of rejecting the proposed gas system in view of the critical gas shortage facing the American consumer.

General themes noted in the statements offered at the public hearings include:

The pipeline should not be allowed to cross the Arctic National Wildlife Range or those areas proposed for possible addition to it.

A more thorough analysis of alternatives to the pipeline is necessary.

The DEIS is too lengthy and should be better organized.

Consideration should be given to alternative routings, especially one which follows the TAPS corridor to the Alaska Highway, or which follows existing utility corridors.

More study should be given to the economic impact of the proposal.

9.3.6 Establishment of Final Environmental Impact Statement Task Force

After information was received through public hearings, the Government review process, and subsequent revisions to the application, it was clear that extensive revisions to the DEIS were necessary.

To accomplish this, the Department of the Interior initiated a multi-discipline task force as indicated in Figure 9.3.6-1. It was the responsibility of the Task Force to review and evaluate each comment and letter received in addition to incorporating subsequent data. As a result of this evaluation, numerous editorial and factual changes have been made to the DEIS. Substantive comments were incorporated wherever they contributed to a better evaluation of the impacts on the environment.

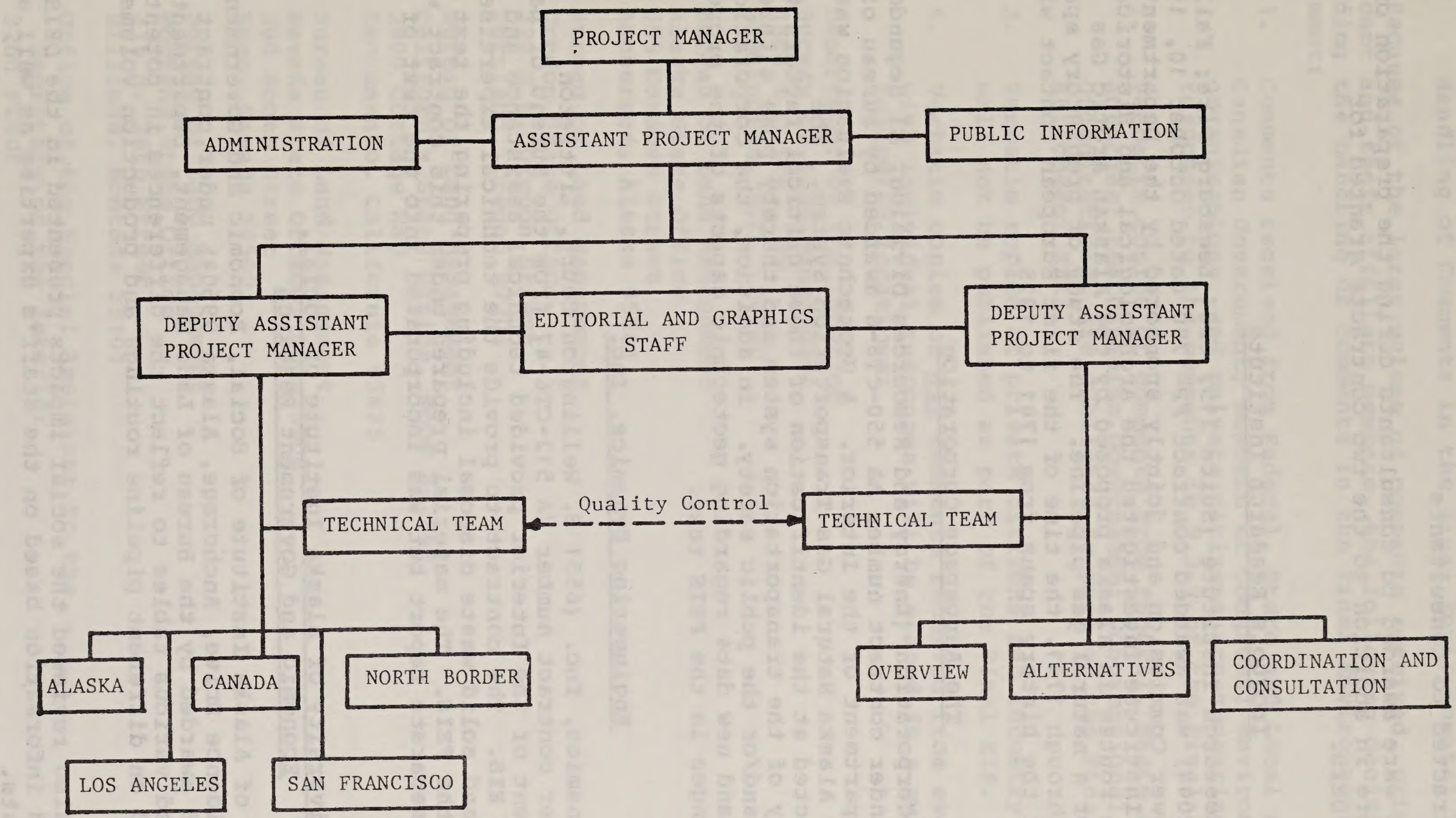
PROJECT MANAGER
ADMINISTRATION
ASSISTANT PROJECT MANAGER
PUBLIC INFORMATION
DEPUTY ASSISTANT PROJECT MANAGER
EDITORIAL AND GRAPHICS STAFF
DEPUTY ASSISTANT PROJECT MANAGER
TECHNICAL TEAM
Quality Control
TECHNICAL TEAM
ALASKA
CANADA
NORTH BORDER
LOS ANGELES
SAN FRANCISCO
OVERVIEW
ALTERNATIVES
COORDINATION AND CONSULTATION

Figure 9.3.6-1 Alaska Natural Gas Transportation System Interagency Task Force for preparation of Final Environmental Impact Statement

9.3.7 Work Contracted to Consultants

Four contracts were awarded to consultants during the preparation of the FEIS. These were in addition to the two contracts granted for preparation of the DEIS.

Iroquois Research Institute

The Iroquois Research Institute (Suite 215; 6201 Leesburg Pike; Falls Church, Virginia 22044) was awarded contract FP-1780 dated October 10, 1975, from the Federal Power Commission and jointly sponsored by the Department of the Interior. The Institute investigated the Archeological and Historical potential along the routes in Alaska proposed by the Alaskan Arctic Gas Pipeline Company for a natural gas pipeline. The study of prehistory spans the earliest time through 1741, the time of the first European contact with Alaskan Natives and the history spans from 1741 to 1925.

The Aerospace Corporation

The Aerospace Corporation (Energy and Resources Division, El Segundo, California 90245) under contract number AA 550-CT6-6 awarded by Bureau of Land Management, Department of the Interior. A Geotechnic Evaluation was carried out for the Alaska Natural Gas Transportation System. The Evaluation was directed at the identification of those critical factors that affect the integrity of the transportation system and thereby pose a threat to the environment and/or the public safety. In addition, the corporation evaluated comments and new data regarding geotechnic aspects of the proposal and recommended changes in the FEIS text.

Engineering Dynamics, Inc.

Engineering Dynamics, Inc. (6551 S. Wellington Court, Littleton, Colorado 80121) under contract number YA 512-CT6-47 from the Bureau of Land Management, Department of the Interior provided technical assistance and review of the Draft EIS. The contract to provide the technical expertise to air quality, noise and solid waste disposal including preparing the text on these subjects for the FEIS. The material prepared under this contract was not presented as a separate report but was incorporated into the text of the FEIS.

University of Alaska Institute of Social, Economic and Government Research

The University of Alaska Institute of Social, Economic and Government Research (3211 Providence Drive, Anchorage, Alaska 99504) under contract number YA 512-CT6-68 awarded by the Bureau of Land Management, Department of the Interior prepared various tables to reflect the differences in potential state revenues based on different pipeline routings and production volumes of natural gas.

The Institute also reviewed the social impacts presented in the DEIS and provided updated information based on the staff's expertise as well as other outside comments.

9.3.8 Handling of Comments in the Final Environmental Impact Statement

Because of the large volume of comments received, primarily from the applicant and their affiliate members, the following decisions were made regarding the handling of comments in the Final Environmental Impact Statement:

1. Comments received from Federal, State and Local agencies; the Canadian Government; members of Congress; environmental organizations, and private citizens are summarized along with responses to the comments in 9.3.9 of the Final EIS.
2. Verbatim copies of comments from Federal, State and local agencies; the Canadian Government; Congressional and other organizations, are published as part of the Final EIS in Attachment XVII.
3. Verbatim copies of private citizens and industry comment letters will not be published as part of the Final EIS.
4. Verbatim copies of all comments received from every source along with individual responses will be placed in a public file at the following locations:

Department of the Interior
Bureau of Land Management
18th & C Sts., NW
Washington, D.C. 20240

Bureau of Land Management
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Bureau of Land Management
Oregon State Office
729 N.E. Oregon Street
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Bureau of Land Management
California State Office, Room E-2841
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Sacramento, California 95825

Bureau of Land Management
Nevada State Office, Room 3008
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Reno, Nevada 89502

Bureau of Land Management
Montana State Office
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Billings, Montana 59101

Office of the Special Assistant to the
Secretary of the Interior
32nd Floor
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Chicago, Illinois 60604

Federal Power Commission
Office of Public Information, Room 1000
825 N. Capitol Street
Washington, D.C. 20426

Federal Power Commission
730 Peachtree Blvd., Room 500
Atlanta, Georgia 30308

Federal Power Commission
Federal Building, 31st Floor
230 S. Dearborn Street
Chicago, Illinois 60604

Federal Power Commission
819 Taylor Street
Fort Worth, Texas 76102

Federal Power Commission
26 Federal Plaza, 22nd Floor
New York, New York 10007

Federal Power Commission
555 Battery Street
San Francisco, California 94111

9.3.9 Summary of Comments and Responses

Comments received on the adequacy of the draft environmental impact statement (DEIS) were contained in written correspondence and in oral testimony presented at the eleven public hearings held throughout the country.

Following are highlights of comments received from Federal, State and local agencies; the Canadian Government; members of Congress; environmental organizations; and private citizens. A partial listing of reviewers making the comments and responses to the comments is also included.

Industry comments, including those of the Applicants and their affiliates, are not referred to in this section but have been taken into account in the final environmental impact statement (FEIS) text.

All comments received from every source and responses to the comments will be placed in a public file at several locations listed in 9.3.8. These public files are considered an integral part of the FEIS.

For the following summary many of the comments were directly related to potential environmental impacts of the proposed project and led to changes or refinements in the FEIS. Others expressed opinions on the adequacy of the DEIS without specific recommendations or supporting information. These comments influenced reconsideration of parts of the DEIS that in some instances lead to modifications. Other comments expressed approval or disapproval of the project proposal or certain portions of it. These are noted for consideration in the application decision process, but did not provide a basis for modification of the DEIS. Another sizeable group suggested mitigating measures or safeguards that could reduce impacts. These will be taken into consideration in the development of stipulations that will subsequently accompany the permits for rights-of-way if the applications are approved. Stipulations are not included in this FEIS.

Finally, many editorial suggestions, including data errors, were received and appropriate changes made in the text.

The major thrust of the comments received which were related directly to environmental impacts are summarized in the following categories:

1. Geology
2. Soils
3. Water Resources
4. Vegetation
5. Wildlife
6. Ecological Considerations
7. Land Use
8. Archeology and History
9. Recreation and Esthetics
10. Socioeconomic Considerations
11. Air Quality
12. Noise
13. Hazards
14. Policy
15. Alternatives

Geology

Comments:

A great deal of concern was expressed about subjects related to the geological problems likely to be encountered during the planning and construction of the project. Most fall in two categories not discussed here. One category is the hazards that are geologic in nature. Landslides, earthquakes and subsidence are examples. These comments have been combined with others pertaining to outside forces that may affect the pipeline and are treated under the heading "Hazards." The second category is suggestions for stipulations to avoid the geologic hazards identified.

Of the remaining comments received, one principal comment stands out. It is the location, number and size of gravel borrow areas needed for the project. Also, the crossing of known and potential gravel deposits was not adequately presented.

Comments by:

(Included in the list are those making comments on geology relating to hazards and stipulations.)

Bureau of Outdoor Recreation
Fish and Wildlife Service
Federal Power Commission
Department of Commerce
Department of Transportation
State of Alaska, Attorney General's Office
State of California, Resources Agency
State of Illinois, Department of Conservation
State of Ohio, Environmental Protection Agency
State of Oregon, Highway Department
State of Oregon, Department of Geology & Mineral Industry

Response:

Borrow areas and gravel deposits along the route have not been identified by the Applicant because no specific on-the-ground planning has occurred. The requirements for gravel during construction have not been determined. It is expected that some construction pads will be needed that will require large amounts of gravel. In the continental United States commercial gravel pits will be used where possible, according to the Applicant.

The FEIS recognizes that borrow pits will create important impacts to the environment outside the corridor. Until gravel requirements are known, as well as the location of gravel resources, the impacts cannot be identified with any certainty nor the environmental impacts evaluated.

Soils

Comments:

The following five subjects were most frequently mentioned by reviewers regarding the restoration of the soil resources:

1. Soils are not covered in the same detail and in the same terms throughout DEIS.
2. Arctic and subarctic soil conditions, particularly thermal balance, are not fully addressed.
3. Importance of retaining soil strata in original form and compacting the fill to aid revegetation and prevent wind erosion and water erosion were not sufficiently covered.
4. Insufficient detail was provided on pipeline location, borrow and disposal areas, storage sites, and access roads to permit formulation of specific mitigating measures in regard to soil restoration.
5. Stipulations should require maintenance of thermal balance and separation and replacement of topsoil per original form.

Comments by:

Mid-Ohio Regional Planning Commission
North Dakota Planning Division
Williston Basin Regional Council
Ohio Environmental Protection Agency
Alaska Department of Environmental Protection
Sierra Club
Soil Conservation Service
South Dakota Department of Game, Fish and Parks
North Dakota State Soil Conservation Committee
Bureau of Land Management, Montana State Office
Lower Yellowstone Soil Conservation District
State of Illinois Department of Conservation
Emmons County (North Dakota) Soil Conservation District
North Dakota State Park Service

Response:

The points made in comments 1, 2 and 3 were recognized by the EIS team and are largely rewritten in the FEIS. Standardizing the approach to a topic such as soil was accomplished for the Final by assigning an overall soils expert to coordinate the preparation of those sections in each geographical volume.

Arctic and subarctic soils, importance of maintaining soil profile or strata, compaction to prevent erosion, and the maintenance of thermal balance have been reviewed and strengthened where new data became available. The impact on soil productivity is potentially one of the most serious issues related to the project and has been treated in greater detail throughout the FEIS.

The fourth issue points out that the lack of information on specific locations of pipeline and supporting facilities makes the evaluation of impacts on soil impossible. The EIS staff agrees generally with the conclusion, but believes that the identification of many anticipated impacts can be and have been stated in the FEIS. The specific facility impact identification will need to wait for final project routing and design decisions.

In the introduction to the section, it was stated that, although many comments were received describing specific stipulations which should be implemented, they would not be responded to here but considered by those preparing stipulations at a later date. However, regarding soils, the measures for the maintenance of thermal balance and the separation and replacement of topsoil was of special interest to reviewers. These issues will be important items in the stipulations. The FEIS provides the supporting justification for many of the reviewers' suggested measures in the geographical volumes, especially in those sections on soil, vegetation, economic, and mitigation measures.

Water Resources

Comments:

Those providing comments on the DEIS on topics relating to water resources expressed fear of water quality deterioration because of the construction and operation of the pipeline. Major comments were:

1. The entire question of hydrostatic testing of the pipe. What will be the source of the water, where will it be returned to the stream, what will the quality of the returned water be, what steps will be taken to minimize erosion during return, what will the impacts on fish be at both the stream supplying water and at the stream receiving the return flows were frequent questions.
2. A concern over possible spills of insecticides and herbicides, lubricants and fuel storage spills, and waste and sewage disposal.
3. More specific data is needed describing river and stream crossings as they affect water quality in the streams.
4. Ice road construction and degradation of permafrost that could dewater streams and then lead to erosion and sediment problems affecting aquatic ecosystems.

Finally, many suggestions for mitigating measures were provided that will be considered when the stipulations are prepared.

Comments by:

Environmental Protection Agency
Fish and Wildlife Service
Soil Conservation Service
Department of Health Education and Welfare
Federal Power Commission
Bureau of Outdoor Recreation
National Park Service, Theodore Roosevelt NMP
Bureau of Land Management, Montana State Office
Department of the Army
State of Alaska, Attorney General Office
State of Alaska, Department of Law
State of California, Resources Agency
State of Idaho, Department of Fish and Game
State of Illinois, Department of Conservation
State of Illinois, Department of Transportation
State of Nevada, Executive Chamber
State of Ohio, Environmental Protection Agency
State of South Dakota, Department of Fish and Game
State of West Virginia
East Central Oregon Association of Counties
City of Spokane
National Wildlife Federation
North Dakota Wildlife Federation
Deep Springs College

Response:

The water quality impact descriptions in the DEIS have been rewritten because of new data received. Substantial modification was made in those parts involving hydrostatic testing, construction of snow and ice roads and permafrost degradation as special emphasis on these problems developed. Most of the discussion of hydrostatic testing is located in the project description and water resource sections of the FEIS. Detailed plans will be developed for hydrostatic testing, ice road construction and river crossings and specific stipulations will be made part of the right-of-way permit if the application is approved. At the present time water sources have not been identified; therefore identification of impacts must be restricted to potential impacts.

Vegetation

Comments:

A wide array of comments and questions was raised dealing with rehabilitation and restoration of vegetation. Included in the comments were: (1) concerns of restoring the natural or selected self sustaining desert, arctic and Great Plain plants; (2) availability of natural seeds, in addition to proper techniques of revegetation; (3) technical questions relating to ground temperature changes and effects of exhaust gases; and (4) use of herbicides to maintain a treeless right-of-way.

The related issue of segregation of topsoil to enhance restoration of vegetation was mentioned by many. This matter has been covered in this section under the heading of Soils.

Comments by:

Soil Conservation Service
U.S. Forest Service
Fish and Wildlife Service
Environmental Protection Agency
State of Alaska, Department of Law
State of Illinois, Department of Conservation
State of California, Natural Resource Department
State of Nevada, Executive Chamber, Carson City, Nevada
Deep Springs College, California
Lower Yellowstone RC&D
North Dakota State Planning
North Dakota SCC
Williston Basin Regional Council
Bureau of Land Management, Montana State Office
Department of Health, Education and Welfare
Bureau of Reclamation
State of Idaho, Department of Policy Planning
State of Oregon, Forestry Department
State of Oregon, Office of the Governor
U.S. Department of Commerce
State of Alaska, Attorney General

Response:

Many made recommendations on mitigation measures that could eliminate or reduce impacts upon vegetation resulting from the project. Those points will be considered during the preparation of the stipulations. The reader of the geographical volumes will note that identification of species of vegetation along the right-of-way and the impacts upon those species are among the principal issues of the EIS. The importance of reestablishing native plants, dangers of herbicides, problems of soil preparation such as mulching for revegetation success, are all considered in detail in the geographical volumes of the EIS. Where new information became available, sections have been revised to reflect inadequacies pointed out by the comments.

The soil descriptions and impacts on soils have been modified and common terminology is used throughout the final EIS.

Detailed project designs and detailed rehabilitation and operation plans are not complete at the present stage of project development.

Wildlife

Comments:

Many specific comments were received on species of wildlife that are native to various segments of the proposed pipeline. These comments fall into categories such as disturbance of habitat, direct killing of animals, threats to endangered species and harassment from pipeline related activities such as low flying airplanes. Specifically some reviewers said that more data were needed on:

1. Summer populations of swans, hawks, eagles and owls, and
2. Winter populations of caribou.

In addition more thorough and more specific information was needed for the following:

1. Wetlands impacts,
2. Disturbance of wildlife by aircraft,
3. Effects of late or inadequate revegetation on stream siltation and fish spawning,
4. Importance of revegetation to wildlife habitat,
5. Timing of construction,
6. Whooping cranes,
7. Polar bears,
8. Musk ox,
9. Moose in Moyie River Valley,
10. Kit fox in southeastern Oregon,
11. Fish resources, and
12. Specific wildlife impacts throughout the draft EIS.

Reviewers also had suggestions for mitigating some of the potential impacts. These will be taken into account later during the preparation of stipulations. Some of the key suggestions were:

1. Fish passage structures and pump intake screening,
2. Minimum airplane flying altitudes,
3. Specific measures to protect rare and endangered species, and
4. Specific measures for each potential impact identified.

Comments by:

Fish and Wildlife Service
Federal Power Commission
Environmental Protection Agency
Department of Transportation
National Park Service
State of Alaska, Department of Law
State of California, Resources Agency
State of Idaho, Department of Fish and Game
State of Idaho, Clearinghouse
State of Illinois, Department of Conservation
State of Nevada, Executive Chamber
State of Oregon, Fish and Wildlife Service
State of South Dakota, Department of Environmental Protection
State of South Dakota, Department of Fish and Game
State of Tennessee, Department of Urban and Federal Affairs
State of West Virginia, Office of the Governor
Sierra Club
National Wildlife Federation
Committee for the Preservation of the Tule Elk
Deep Springs College
William Gallagher
Ted Fries
John Sutherland
Eric V. Swanson
James R. Withrow

Response:

The draft EIS was reviewed in light of the comments received and additional information that became available. Modifications were made in the wildlife impact sections of the final EIS as a result. The degree of detail for individual species was limited to that considered necessary to identify the kinds and the order of magnitude of potential impacts associated with the project proposal. It is recognized that detailed plans by the Applicant will be necessary before many impacts can be identified. Following that, stipulations will be required to accommodate site specific impact situations. These are not covered in the final EIS but will be part of the process for the issuance of permits for rights-of-way on the proposal.

The reader interested in the detailed discussion of wildlife impacts should read the wildlife sections and the sections on mitigation and unavoidable impacts in each of the geographical volumes.

Ecological Considerations

Comments:

Most comments received that presented specific problems are found in this Comment and Response Section under the appropriate headings such as soils, land use, wildlife, etc. However, some reviewers suggested broad mitigation measures such as the endorsement of having local or regional technical teams participate in project planning decisions. These will be considered by those preparing stipulations.

There were also comments that the DEIS was not adequate on certain broad ecological subjects. The two most prominent of these were that the DEIS failed to have a thorough analysis of the problem of endangered species of fauna and flora along the proposed pipeline and secondly that the lack of knowledge of problems of arctic construction should be corrected by immediate research. Some reviewers believe that more attention to the removal of the pipeline was warranted. These reviewers believe that the impacts from pipe removal would essentially duplicate those of construction.

Comments by:

U.S. Environmental Protection Agency
USDA Soil Conservation Service
National Park and Conservation Association
U.S. Department of Commerce
City of Spokane

Response:

Some additional data became available for the FEIS on these two subjects and where this new information contributed to the identification of environmental impacts that could result from the project, it has been included. However, it is a fact that specific data about endangered species which may be threatened by the project are incomplete in that it is not possible to say with certainty what the direct impacts would be since no final route has been determined. Some incremental loss to endangered species can be expected from this project. Consideration of known impacts on species of fauna and flora will play a role in the final planning of the pipeline route and the preparation of stipulations will also take into consideration this problem.

The question of arctic construction is one that clearly concerns everybody, both from economic costs viewpoint as well as environmental costs. Knowledge on this subject is growing rapidly and will be applied to final route selection and incorporated into the stipulations that are prepared.

Land Use

Comments:

Many reviewers expressed judgments that the pipeline should not cross lands dedicated to other purposes. The proposed crossing of environmentally unique and sensitive areas such as preserves, parks, stretches of rivers with wild and scenic river potential, wildlife areas and scenic areas should be avoided. Most comments referred to specific areas that should not be crossed. Most frequently mentioned areas were the:

1. Arctic National Wildlife Range, Alaska
2. Starved Rock State Park and Nature Preserve, Illinois
3. Deep Springs Valley, California
4. Little Missouri Badlands, North Dakota
5. Pothole and wetlands that are prime waterfowl habitat areas, primarily Dakotas, Minnesota, Alaska and Canada
6. Big Bend State Conservation Area, Illinois

Comments by:

National Wildlife Federation
State of Illinois, Department of Conservation
Commonwealth of Pennsylvania, Office of the Governor
Pennsylvania State Office of Planning and Development
Southwestern Pennsylvania Regional Planning Commission
State of Alaska
U.S. Fish and Wildlife Service
Audubon Council of Illinois
National Parks and Conservation Association
Sierra Club
National Audubon Society
Illinois Nature Preserve Commission
Live Wilderness Expeditions
Over 80 private citizens

Response:

Because the final route has not been determined, the DEIS evaluated the impacts along the planning line that accompanied the application. All of the areas named by reviewers, including Mingo Creek and Round Hill Regional Parks in southwestern Pennsylvania, have been identified, expected impacts listed in the FEIS, and in most cases specific mitigating measures, such as route adjustments, have been included. The reader is advised to read the geographical volumes' impact sections on recreation and esthetics, land use and wildlife and section 4 in those volumes on mitigation for the most complete discussion regarding these and other specific areas of high environmental values. Also, because almost all of the comments received on this subject requested the area be avoided altogether, the comments will be part of the material provided to those preparing the stipulations.

Archeology and History

Comments:

Comments on archeologic and historic resources were specific and are summarized as follows: (1) Impacts of the proposed pipeline project on archeological and historical resources were not adequately described in the DEIS for areas of known importance or high potential for discovery of previously unknown sites, such as the Inyo Mountains, Cedar Mountains, Deep Springs and Owens Valleys; the Little Missouri River and its associated badlands; and the two crossings of the Missouri River Valley; and (2) Plans for the identification and protection of known and unknown sites must be prepared before final pipeline routing and design are determined.

Comments by:

Environmental Protection Agency
National Park Service
New York Archeological Council
Yellowstone Valley Audubon Society
Deep Springs College
Peter L. Guth

Response:

The archeological and historical sections of the two west coast segments of the EIS have been revised to include new data. The revised project does not pass through the California areas listed but future expansion of this segment may occur. However, the fact remains that there is little knowledge of what will be found during the construction phase in the areas sited or the remainder of the proposed route. The Little Missouri Badlands, for example, have not been surveyed along the proposed corridor nor has most of the route. Known sites were identified by the Applicants and are discussed in the EIS.

Several comments were received relating to mitigation measures that should be applied to identify, protect, or salvage the cultural resources that are encountered along the proposed route. These comments are on file and will be considered during the preparation of the stipulations. Specific requirements of the Council for Historic Preservation will apply to these aspects of the project and procedures will be determined in conjunction with the Council.

Recreation and Esthetics

Comments:

Comments relating to recreation areas and activities, and associated esthetic values, are highlighted as follows:

1. There is concern that the proposed pipeline will pass through several major parks serving urban populations, will take land from recreation use, reduce esthetic values of these parks, and result

in fewer recreational opportunities in areas already short of parks.

2. The proposed crossing of the John Day River, Oregon, may endanger the possible designation of the river as a National Wild, Scenic or Recreation River.

3. The loss of esthetic values, both incrementally and absolutely, was a concern of many comments. Wooded areas were mentioned most frequently.

4. The permanent right-of-way for the pipeline could serve as an access route to areas largely unused, thereby creating additional environmental impacts.

Comments by:

State of Illinois, Department of Conservation
North Dakota State Park Service
State of Ohio, EPA
Commonwealth of Pennsylvnia, Office of the Governor
State of Idaho, Division of Policy Planning
Audubon Council of Illinois
State of Nevada, Executive Chamber
Deep Springs College

Response:

The FEIS recognizes that some parks serving urban populations will be crossed by the project as it is now proposed. Most of these areas are east of the Mississippi River along the North Border geographical segment. Key areas are the Starved Rock State Park and Nature Preserve on the Illinois River and the two large regional parks south of Pittsburgh, Pennsylvania. The discussion of these impacts in terms of esthetic damage and loss of recreation opportunities is found under the heading of Recreation in the North Border geographic volume. The section on mitigation in the North Border volume also presents steps to reduce these impacts.

The question of the John Day River values being compromised by the crossing of the proposed pipeline is discussed in the Recreation chapter of the San Francisco geographical volume. Basically, the Applicant believes that the new crosssing will result in overall less impacts to the River and importantly, its valley.

The visible signs of the project on the surface following the construction and restoration phases are a key issue throughout the geographical volumes of the FEIS. The Reader is referred to the discussion of impacts (section 4) and unavoidable impacts (section 5) in each of the geographical volumes of the FEIS for details. Section 3 on vegetation and recreation and esthetics will be useful for impact descriptions.

The question of the right-of-way being used for access to previously inaccessible areas is generally restricted to public lands in Idaho and Oregon. In the west coast volumes, possibilities of new areas being opened to activities are presented. The timbered country in public ownership is the area of major concern for this impact.

Socioeconomic Considerations

Comments:

Economic and sociological comments can be grouped into the following concerns:

1. The economic and social impacts that will affect communities and their citizens where construction workers and operations employees will live. Included are concerns about schools, roads and other community services and their cost to the taxpayer.
2. The sociological impacts on the native people along the corridor in Alaska and Canada are not adequately evaluated.
3. The secondary impacts from increased economic activity because of the availability of Alaskan gas are not evaluated.
4. The construction of the proposed project would stimulate development along the system such as the coal fields of North Dakota and oil/gas basins in northern Alaska and Canada.

Comments by:

State of Illinois, Department of Conservation
Sierra Club, San Francisco, California
Janice Takata
State of Oregon, Office of the Governor
State of Alaska, Attorney General
Forest Service (USDA)
State of Nevada, Executive Chamber
Deep Springs College
Eric Swanson
James R. Withrow
U.S. Department of Transportation
State of Alaska, Department of Law
Environmental Protection Agency
State of Ohio, EPA
Commonwealth of Pennsylvania, Office of the Governor
Harry and Beatrice Selby
Bureau of Land Management, Montana State Office
James Centorino
Theodore Roosevelt National Memorial Park (USDI)
Williston Basin Regional Council
Pennsylvania Department of Environmental Resource
State of South Dakota EPA
University of Nevada
State of South Dakota Game, Fish and Parks Department
North Dakota Planning Service

Response:

The issue of impacts on small communities is difficult to specifically describe until actual alignment of the pipeline has been determined and indicates which towns will be affected. However, the kinds of impacts that small towns receive from a sudden influx of people is well known. These have been identified and evaluated in the chapters dealing with social and economic impacts. Some of the problems should be lessened when construction camps are used in thinly populated areas. Larger towns would be expected to better absorb the social impacts of this magnitude.

Special studies of impacts were done regarding the effects on native people in Alaska and Canada since the DEIS and results are reflected in the FEIS.

Regarding secondary impacts from economic growth resulting from the availability of additional supplies of gas, the Applicants have stated for the record that no new gas, that is gas for additional customers, is involved in this project. The gas from this project is to replace declining supplies from other sources. Because no new or additional gas is expected to be delivered to customers or regions, no evaluation of impacts in the vicinity of distribution points has been undertaken in the FEIS.

Because the project originates in an area where additional oil and gas reserves may be found, and has been routed through the Great Plains Coal Fields, there is a possibility that at some future time this line could be used to transport petroleum products from these or other areas to markets in other parts of the country. However, this project does not depend on these or other fields for justification. The Applicants have repeatedly stated that this project stands on only the proposal to transport natural gas from those areas to fields identified in the application.

Air Quality

Comments:

Comments maintain that the discussion in the DEIS is not detailed enough to inform the reader on the following points:

1. Specific areas where air quality standards will be exceeded,
2. The threat of ice fog accumulation from construction and operation activities,
3. Degraded air quality effects on wildlife, and
4. Air quality changes in the vicinity of compressor stations.

Comments by:

Environmental Protection Agency
U.S. Department of Transportation
State of Alaska, Attorney General
State of Illinois, Department of Conservation
North Dakota Wildlife Federation
State of Illinois, Department of Transportation
State of Illinois, EPA
Resources Agency of California

Response:

The sections in the geographical volumes that describe and evaluate the air quality aspects of the proposed project have been largely rewritten for the FEIS. The objective of these sections is to identify the nature of air pollutants generated during construction, operation of compressor stations and as the result of a pipe system rupture as well as where pollutants are most likely to occur (i.e., valleys). In the sections describing impacts, specific problems are identified to the degree that they can be determined at this stage of project development. Included in these discussions are the impacts resulting from dust in the air during construction. Ice fog is considered to be a potential problem in local areas especially during unfavorable weather conditions. Stipulations will be considered that would restrict fog generating activities during adverse weather conditions.

Noise

Comments:

Comments related to noise suggested an inadequate discussion of impacts and lack of specific mitigation measures in the DEIS. More specifically, reviewers state that the effect of noise on pipeline workers during construction, on residents living nearby, and on people using nearby recreation areas, has not been adequately discussed. Others observed that the impacts of construction and operation noise on wildlife need more emphasis.

Comments by:

Department of Health, Education, and Welfare
Resources Agency of California
South Dakota Department of Game, Fish and Parks
Environmental Protection Agency
Bureau of Land Management, Montana State Office
State of Illinois, EPA
State of Illinois, Department of Conservation
State of Alaska, Attorney General
Department of Transportation

Response:

The types and intensity of noise from construction and operation of the pipeline are presented in the revised sections of the FEIS that describe noise and the impacts of noise. Pipeline construction, including noise, is cited as one of the principal impacts leading to a reduction of recreation activity in the near vicinity of the project. The reader is referred to the sections in the geographical volumes on recreation and esthetics.

Hazards

Comments:

A variety of comments pertaining to hazards were received. They are summarized as follows:

1. Hazards resulting from gas leaks, pipe rupture, and explosions need more analysis.
2. More information is needed on hazards from geologic and soil conditions, earthquakes, land or mud slides, and frost heave.
3. Hazards related to the proximity of coal seams where fire could occur and cave-ins caused by the presence of shaft mines need discussion.
4. The dangers of the pipeline being located too near nuclear power plants such as the one at Cordova, Illinois, and installations

like the China Lake, California, Naval Weapons Center should be discussed.

Comments by:

Environmental Protection Agency
Nuclear Regulatory Commission
Bonneville Power Administration
Federal Power Commission
Fish and Wildlife Service
Department of Transportation
Williston (North Dakota) Basin Regional Council
State of West Virginia, Office of the Governor
State of Illinois, EPA
Resources Agency of California
Department of Health, Education and Welfare
State of Alaska, Attorney General
Department of Commerce
Naval Weapons Center
Yellowstone Valley Audubon Society

Response:

The items listed above that were mentioned in the comments and others that would fall under the category of hazards, have been taken from the geographical volumes and identified and evaluated in the Overview volume under the heading of Hazards. The four summary comments listed identify types of hazards that must be taken into account in order to construct and operate a pipeline facility that is as safe as possible. All of these hazards are identified and discussed in the text. The specific point most frequently raised in the comments pertains to specific mitigating measures that would guarantee maximum safety. These measures will be considered when stipulations are prepared for the project.

Policy Questions

Comments:

The following three points combined the principal comments most frequently raised relating to policy.

1. The assessment of the impact of the project must take into consideration an analysis of a policy or program by the Administration to reduce or regulate the nation's consumption of the limited supply of natural gas. Included in such a program would be the measures that the consortium members would use to induce energy conservation in public, private and industrial sectors of our society. Such a program for natural gas should be part of an overall energy program or at least of a fossil fuel program and should (a) give consideration to rate changes, (b) deregulation, (c) curtailment of delivery, (d) addition of new users, (e) maximum natural gas usage in areas where favorable air quality is difficult to maintain, etc.

2. Better coordination between development of Alaska gas and that from the continental shelf program.

3. The possibility that the existence of a natural gas transportation system would stimulate an increase in further exploration and possible development of resources in the Arctic and the Great Plains is not adequately covered.

Comments by:

State of Alaska, Department of Law
U.S. Environmental Protection Agency
Sierra Club
National Audubon Society
Alaska Conservation Society
Wilderness Society

Response:

Neither the development of an energy or fossil fuel program or policy or the assessment of present administration policy is considered within the scope of this particular environmental impact statement. No overall strategy for energy development or use is part of the proposal. Such an overall proposal and an accompanying environmental impact statement would presumably come from the Administration. Use of the continental shelf resources, oil shale, and coal gasification would be part of such an overall program.

The principal factor relating to secondary impacts is that no new customers or increases in the amount of gas to existing customers will occur. The project, according to the Applicants, is for replacement of current gas supplies. Therefore, secondary impacts of the project have been limited to economic and sociological impacts resulting from construction and operation of the line. The reader is referred to those sections in the geographical volumes on economic and sociological impacts resulting from the project.

The possibility that the proposed system would stimulate new or additional development is discussed in the FEIS to the degree possible without undue speculation. For example the proposed routing of the pipeline through the heart of the North Dakota coal fields raises questions regarding the effect of the pipeline on coal gasification. The Department recognized that should development of gasification be associated in any way with the proposal, that the environmental impact statement would need to include consideration of that development. The possible relationship was discussed with the Applicant. The conclusion was that the proposal before the Department has no relationship to coal gasification. However, should a gasification industry be developed and the arctic pipeline lie approximately along the proposed distribution route, consideration for using the existing system for transport would undoubtedly occur. On this basis no evaluation of gasification was included in the FEIS. A similar situation is true of other possible development along the arctic pipeline.

Alternatives

(Because of the great variety of comments, the format for this subsection has been changed so that comments and issues follow each other more closely.)

Comments:

Comments received by the Department regarding alternatives fall within three categories: (a) Alternatives are not adequately described so that the reader can make judgments or comparisons; (b) suggestions for route adjustments to avoid a specific area; and (c) comments and statements of preference regarding system alternatives either to the transporting of natural gas or to alternative sources of energy.

Response:

A great deal of effort has gone into the FEIS to simplify the presentation of alternatives for the reader so that viable alternatives are more clearly portrayed.

The route adjustments that were suggested are frequently discussed in the geographical volumes (especially for North Border) in section 4 on mitigation. All such recommendations received by reviewers will be used during the preparation of stipulations.

The three comments regarding system alternatives are presented below with responses.

Comments:

The alternative energy sources should not be described in detail unless they are viable substitutes for the proposed Alaska Natural Gas Transportation System. Reference should be made to the University of Oklahoma report "Energy Alternatives," 1975 which covers background and descriptive material for energy sources.

Comment by: Council on Environmental Quality (CEQ)

Response:

The DEIS sections dealing with alternative energy sources have been condensed considerably in the FEIS. Only those sources considered viable in the time frame of the proposed project were given any detailed discussion. For all energy sources (as well as modes of transportation), the discussions include citations of the most complete and latest references in the scientific literature dealing with the research being done and the progress being made in developing use of such energy sources. Extensive citations have been made in both the DEIS and the FEIS to the "Energy Alternatives" report, which, while very informative, failed to cover all the types of information the Task Force was requested to supply in the preparation of the Alternatives volume.

Comment:

The geothermal energy alternative was given inadequate treatment in the DEIS. The discussion needs some factual correction and appears to be biased against geothermal energy as a potential energy source.

Comment by: Geothermal Energy Institute

Response:

Geothermal energy was not considered to be a viable energy alternative to the Alaska Natural Gas Transportation System within the time frame of the pipeline construction and operation. Therefore, following the recommendation received from CEQ that only the most viable sources of energy and modes of transportation be given detailed discussion in the FEIS, the geothermal energy section was condensed considerably from its original form. The Institute's suggestions have been noted and incorporated into the final text wherever appropriate. For geothermal energy and other energy sources not considered viable at the present time, full bibliographic references have been included so that readers may have access to literature on the latest developments and proposals in the field.

Comment:

Conversion of the Alaska natural gas to methanol and its possible transportation through the TAPS pipeline, or a separate methanol pipeline, or in ice-breaking tankers or submarines have not been adequately or objectively covered in the DEIS. The report was considered to be biased against the methanol concept and particularly against methanol transport by submarine through international arctic waters.

Comments by: Westinghouse Electric Corporation, Oceanic Division
Wentworth Brothers Incorporated
Prof. Sullivan S. Marsden, Jr., Stanford University

Response:

The major questions raised on the methanol concept of conversion of the Alaska natural gas and consideration of various modes of transportation of the methanol from the North Slope to the conterminous United States have been covered in various expanded sections of the FEIS. A methanol pipeline, and different methods of preparing methanol for shipment by pipeline or other modes of transportation and the environmental effects of methanol spills, construction of plants on the north slope, and the like have been discussed in the Alternatives volume of the FEIS. The specific problems that could occur from attempts to transport methanol by ice-breaking tanker are also discussed, as is transporting by submarine. Much of the criticism of the DEIS discussion of the methanol problem was premised on the fact that information from the seven-volume report, "Arctic Submarine Transportation System, 1975" prepared for the U.S. Department of Commerce, Maritime Administration, and issued in January 1975 was not included in the DEIS discussion and it had not been cited in the bibliographic references. The requested copy of that report was not received by the Alaska Natural Gas Transportation System Task Force until after the DEIS had gone to press, thus too late to include it. Also, permission to cite and use the information was not received from the Maritime Administration until October 30, 1975, when the report was placed in the Department of Commerce Library for public inspection. This report and many other additional references have been added to the list of references dealing with this subject.

Comment:

No pipeline route should be permitted to cross the Arctic National Wildlife Range because it is a unique irreplaceable wildlife range and because the pipeline construction would result in the loss of wilderness and aesthetic values, loss of a unique area for scientific study, environmental impacts on wildlife and vegetation on the Range and on other arctic ecosystems and possibly even on the integrity of the entire wildlife refuge system, and the encouragement of further exploration of onshore and offshore surface resources and of other arctic areas.

Comments by: Individuals-48
National Wildlife Federation
Sierra Club, Southern California Region
Wildlife and Endangered Species Subcommittee
State of Alaska, Office of the Attorney General
U.S. Department of Commerce
State University of New York, Oneonta, Biology
Department, Oneonta, N.Y.

Response:

The problems of the possible environmental impacts on the unique nature of the Arctic National Wildlife Range are recognized and have been considered carefully in the Alaska volume of this FEIS. Should the pipeline application be approved, the matter would be considered further through detailed route planning and through preparation of stipulations.

Comment:

Many reviewers expressed a preference for the Alaska Pipeline LNG-Tanker alternative. The principal reasons were: (a) it would be an all-American route; (b) more economical as well as environmentally safe; and (c) avoids the Arctic National Wildlife Range.

Comments by: 20 individuals
Live Wilderness Expeditions
Nature Study Society, Rockford, Illinois
U.S. Fish and Wildlife Service

Response:

Bringing the gas south from the Alaska North Slope, generally along the Trans-Alaska Pipeline, to one of several coastal ports where liquefication would take place before shipping to the West Coast is the principal alternative to the cross Canada proposal. The majority of the Alternatives volume in the FEIS evaluates this alternative with variations such as different ports where liquefication and docking facilities would be located. All of the data that has become available is included in the evaluation. The reader is referred to the revised discussion of this alternative in the FEIS.

Comments:

Alternative routes through Alaska are the: (1) Fairbanks alternative; (2) Interior alternative; (3) Offshore alternative; (4) Coastal alternative; and (5) Fort Yukon alternative.

Most comments expressed opinions favoring one over the others or frequently saying that the routes were not presented in such a way as to make clear judgments as to the least environmental conflicts.

Response:

The question of alternative routes has been extremely difficult to present clearly and, for this reason, has been removed from the Alternatives volume. The descriptions of the route alternatives have now been included in the appropriate geographical volumes, where they have been revised and with the inclusion of additional data and comments received from the reviewers, now provide the latest and most complete information available. In addition, the route alternatives have also been aggregated for the total system and discussed further in the Overview volume.

because the pipeline construction would [illegible] aesthetic values, loss of a unique area for scientific study, environmental impacts [illegible] system, and [illegible] surface resources and of other arctic areas.

Comments No. [illegible]

Response:

The problems of the possible environmental impacts on the entire section of the Arctic National Wildlife Range are recognized and have been considered carefully in the Alaska volume of this EIS. Should the pipeline application be approved, the matter would be considered further through detailed route planning and through preparation of stipulations.

Comment:

Many reviewers expressed a preference for the Alaska Pipeline LNG-tanker alternative. The principal reasons were: (a) it would be an all-American route, (b) more economical as well as environmentally safer and (c) avoids the Arctic National Wildlife Range.

Comments No. 26 individuals
Sierra Wilderness Expeditions
Audubon Society, Rockford, Illinois
U.S. Fish and Wildlife Service

Response:

Bringing the gas south from the Alaska North Slope, generally along the Trans-Alaska Corridor, to one of several coastal ports where liquefaction would take place before shipping to the West Coast, is the principal alternative to the Arctic Canada proposal. The [illegible] of the Alternatives volume in the EIS evaluates this alternative with variations such as different ports where liquefaction and shipping facilities would be located. All of the data that has become available is included in the evaluation. The reader is referred to the revised discussion of this alternative in the EIS.

Attachment I

At the time the applications were filed with the Department of Interior, United States and Canadian companies were members of the Gas Arctic-Northwest Project Study Group (Arctic Gas Study Group), and had contributed heavily both in manpower and in money to the organizations which have filed for authority to make arctic gas available to Canadian markets, and to far western, midwestern and eastern markets in the lower 48 states. A complete list of these member companies in the total project is:

*Alberta Gas Trunk Line Company Limited
Alberta Natural Gas Company, Ltd.
Atlantic Richfield Company
Canada Development Corporation
*Canadian National Railway Company
*Canadian Pacific Investments Limited
Canadian Superior Oil Ltd.
Canadian Utilities Limited
Colorado Interstate Corporation
Columbia Gas Transmission Corporation
Consumers' Gas Company
*Exxon Company, U.S.A.
Gulf Oil Canada Limited
Imperial Oil Limited
Michigan Wisconsin Pipe Line Company
Natural Gas Pipeline Company of America
Northern Natural Gas Company
Numac Oil & Gas Ltd.
Pacific Lighting Gas Development Company
Panhandle Eastern Pipe Line Company
*Pembina Pipe Line Ltd.
Polaris Pipe Lines
Shell Canada Limited
*The Standard Oil Company (Ohio)
Texas Eastern Transmission Corporation
Transcanada Pipelines Limited
Union Gas Limited
^Sun Oil Company

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*Companies which have since withdrawn from the Arctic Gas Study Group.

^Company which has joined the Arctic Gas Study Group since the applications have been filed with the Department of the Interior.

Attachment II

ALASKAN NATURAL GAS TRANSMISSION SYSTEMS

Memorandum of Understanding Between the Department of the Interior and the Federal Power Commission[1] for Preparation of Alaskan Natural Gas Transmission Systems—Environmental Impact Statement

The Department of the Interior and the Federal Power Commission have received applications for natural gas pipeline right-of-way permits across federal lands and certificates of public convenience and necessity authorizing the construction of natural gas transmission facilities, all in connection with a proposed transportation system which would ultimately deliver large volumes of natural gas from the Arctic Regions of Northeast Alaska to the lower United States.

The Alaskan Arctic Gas Pipeline Company requested federal permits and certificates on March 21, 1974, to construct a 48-inch pipeline for transportation of natural gas from the Prudhoe Bay area in the northern slope of Alaska. The proposed pipeline route would extend across Northeast Alaska through the Arctic National Wildlife Range, a distance of about 195 miles, before crossing the international boundary and going south through Canada.

Additional certificate applications have been filed with the Federal Power Commission by Pacific Gas Transmission Company, Interstate Transmission Associates and Northern Border Pipeline Company requesting Commission approval of related natural gas transmission systems which may be required to distribute the Alaskan Arctic gas throughout the United States. In this regard, additional permit applications are expected to be filed with the Department of the Interior. Pursuant to these applications, the pipeline routes are expected to be generally located as follows:

(1) From Kingsgate, British Columbia, through Idaho, Washington, Oregon, and California to San Francisco; and

(2) From Kingsgate, British Columbia, through Idaho, Washington, Oregon, Nevada and California to Los Angeles; and

(3) From northern Montana through North Dakota, South Dakota, Minnesota, Iowa, Illinois, Indiana, Ohio, West Virginia to Pennsylvania.

Copies of all applications are available for public inspection at the Bureau of Land Management Offices in Anchorage and Fairbanks, Alaska, and in Washington, D.C., and at the Federal Power Commission, Office of Public Information, in Washington, D.C.

It is expected that others will also apply for federal right-of-way permits and certificates of public convenience and necessity to construct a natural gas pipeline system from the Prudhoe Bay area across Alaska on a north-south route ultimately delivering the gas to the lower United States by cryogenic oceangoing tankers.

On May 15, 1974, and May 20, 1974, respectively, the Secretary of the Department of the Interior and the Chairman of the Federal Power Commission signed a memorandum of understanding which is published in its entirety below.

Dated: July 8, 1974.

JOHN C. WHITAKER,
Acting Secretary of the Interior.

MEMORANDUM OF UNDERSTANDING FOR PREPARATION OF ALASKAN NATURAL GAS TRANSPORTATION SYSTEMS ENVIRONMENTAL IMPACT STATEMENT

Parties. The parties of this Memorandum are the U.S. Federal Power Commission (FPC) and the U.S. Department of the Interior (INTERIOR).

Purpose. The purpose of this Memorandum is to define the responsibilities of FPC Staff and INTERIOR in the preparation of an environmental impact statement (EIS) as required by Section 102(2)(C) of the National Environmental Policy Act of 1969, 42 U.S.C. 4321–4327 (1970), for the proposed natural gas transportation systems from the Prudhoe Bay area in Alaska to the lower United States.

Proposed action. On March 21, 1974 the Alaska Arctic Gas Pipeline Company applied for Federal permits and certificates of public convenience and necessity to construct the Alaska portion of a natural gas pipeline system which is proposed to run from the Prudhoe Bay area, across northeast Alaska, then south through Canada to the lower United States. Further certificate and permit applications by other organizations are also expected in connection with related pipeline systems which may be required to transport and distribute the natural gas on various routes throughout the lower United States. While all specific details are not available at this time, these routes within the United States are expected to be generally located as follows: (1) From Kingsgate, British Columbia, through Idaho, Washington, Oregon, and California to San Francisco; (2) from Kingsgate, British Columbia, through Idaho, Washington, Oregon, Nevada, and California to Los Angeles; and (3) from northern Montana through North Dakota, South Dakota, Minnesota, Iowa, Illinois, Indiana, Ohio, West Virginia, and into Pennsylvania.

It is expected that in the near future the El Paso Natural Gas Company will also apply for Federal permits and certificates to construct a natural gas pipeline system from the Prudhoe Bay area, across Alaska on a north-south route similar to that followed by the Alyeska Pipeline Service Company, ultimately delivering the gas to the lower United States by cryogenic oceangoing tankers.

Existing responsibilities. FPC has responsibility for the evaluation and jurisdiction for the certification of the proposed transportation systems. The FPC staff, with the assistance of INTERIOR and others, will conduct a detailed independent analysis and prepare a detailed environmental statement as required by the Commission's Order No. 415–C of December 18, 1972. Because any pipeline involved will cross the public lands and other areas of INTERIOR jurisdiction, and because permits or concurrences will be required for such crossings, INTERIOR is directly involved in the proposed action and is required to prepare a detailed environmental impact statement.

Agreement. In view of the above considerations, FPC and INTERIOR agree to the following:

1. Jointly, FPC and Interior will:

a. In order to effectively and expeditiously assess the environmental impacts of the action, assume joint responsibility for preparing an EIS.

b. Establish an interagency task force to prepare the required EIS. Co-chairman of the task force will be designated by each agency, with responsibility for overseeing the completion of the EIS. Each agency will designate an executive director with primary responsibility for managing its respective staff effort in the preparation of the EIS. Each agency will designate a project manager who will be responsible for supervising its respective task force members. Other Federal government agencies will be invited to serve on the task force. Work groups for preparing the individual sections of the statement will include members of the task force, other government personnel, as well as sub-contractors and consultants where necessary.

c. Jointly assume responsibility for preparing all sections mutually agreed to be necessary and not specifically identified in paragraphs 2(d) and 3(c) below.

d. Each bear the cost of its own participation in preparing the EIS out of appropriate funds and such reimbursement as may be proper and required by law and regulations.

2. FPC will:

a. Designate a task force co-chairman, an executive director, and a project manager.

b. Assign a minimum of one FPC staff member to each work group.

c. Be responsible for the preparation of an EIS for the pipeline transportation and pertinent facilities under Sections 3 and 7 of the Natural Gas Act, 52 Stat. 821–833; Title 15 U.S.C. 717–717w as amended.

d. Assume primary responsibility for preparing those sections of the EIS relating to the liquefaction, ocean transport, and gasification of natural gas. As appropriate, FPC may request assistance from the Coast Guard, Maritime Administration, the Department of Transportation Office of Piepline Safety, and others.

e. Furnish to INTERIOR such witnesses as may be necessary to support FPC's portion of the EIS in public hearings.

f. Provide advice and assistance to INTERIOR as may be required in the preparation of the EIS.

3. INTERIOR will:

a. Designate a task force co-chairman, an executive director, and a project manager.

b. Establish work groups to participate in the preparation of the EIS.

c. Assume primary responsibility for those sections of the EIS relating to land transportation of natural gas through pipeline systems across Federal lands and other areas of INTERIOR jurisdiction in the United States.

As appropriate, INTERIOR may request assistance from the Corps of Engineers, Environmental Protection Agency, the Forest Service, and others.

d. Furnish to FPC such witnesses as may be necessary to support INTERIOR's portion of the EIS in public hearings.

e. Provide advice and assistance to FPC as may be required in the preparation of the EIS.

4. If it becomes necessary due to FPC's statutory or regulatory authority for certain sections of the EIS to have both FPC and INTERIOR versions, the separate versions will contain appropriately noted authorship.

Approved:

Dated: May 15, 1974.

ROGERS C. B. MORTON,
Secretary,
Department of the Interior.

Dated May 20, 1974.

JOHN N. NASSIKAS,
Chairman,
Federal Power Commission.

[FR Doc.74–16499 Filed 7–18–74;8:45 am]

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[1] See FR Doc. 74–16498, Federal Power Commission, appearing in this issue.

Attachment III

Alaska Natural Gas Transportation Systems

Consolidated Environmental Impact Statement Outline*

DOI - FPC

July 16, 1974

1. DESCRIPTION OF THE PROPOSED ACTION

Provide a brief description of the proposed transportation of natural gas from the Alaska north slope to the lower forty-eight states.

1.1 ARCTIC GAS PIPELINE PROJECT

1.1.1 Alaska Arctic Pipeline

The following kinds of details should be developed for the Alaska Arctic Pipeline section as appropriate. The same 1.x.x.x details should also be developed for each of the other 1.x.x. sections.

1.1.1.1 Purpose.

1.1.1.2 Location.

1.1.1.3 Facilities.

1.1.1.4 Land Requirements

1.1.1.5 Schedule

1.1.1.6 Construction Procedures.

1.1.1.7 Operational and Maintenance and Emergency Procedures.

1.1.1.8 Future Plans.

1.1.1.9 Actions Involved - Federal, State, etc.

1.1.2 Canadian Pipeline

1.1.3 Northern Border Pipeline

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* This Outline has been structured to that the individual tasks have identical numbers throughout Section 1. through 7. The project-specific tasks are shown above and can be tracked as x.1.1 through x.1.5 and as x.2.1 through x.2.5. The Economics task is a part of Subsection x.x.x.9 Economic Factors in Section 2. through 7. The Alternatives task is Section 8.

1.1.4 San Francisco Pipeline

1.1.5 Los Angeles Pipeline

1.2 EL PASO LNG PROJECT

1.2.1 Trans-Alaska Pipeline

1.2.2 LNG Export Terminal

1.2.3 LNG Tanker Transport

1.2.4 Regasification Terminal A

1.2.5 Regasification Terminal B

2. DESCRIPTION OF THE EXISTING ENVIRONMENT

Provide an overall description of existing conditions or resources which might be affected directly or indirectly by the proposed action.

2.1 ARCTIC GAS PIPELINE PROJECT

2.1.1 Alaska Arctic Pipeline

The following kinds of details should be developed on a regional and corridor basis for the Alaska Arctic Pipeline section, as appropriate. The same 2.x.x.x details should also be developed for each of the other 2.x.x sections.

2.1.1.1 Climate.

2.1.1.2 Topography

2.1.1.3 Geology.

2.1.1.4 Soils.

2.1.1.5 Water Resources.

2.1.1.6 Vegetation.

2.1.1.7 Wildlife.

2.1.1.8 Ecological Considerations

2.1.1.9 Economic Factors

2.1.1.10 Sociological Factors

2.1.1.11 Land Use.

2.1.1.12 Paleontological, Archaeological, and Historic

2.1.1.13 Recreation and Aesthetic Resources.

2.1.2 Canadian Pipeline

2.1.3 Northern Border Pipeline

2.1.4 San Francisco Pipeline

2.1.5 Los Angeles Pipeline

2.2 EL PASO LNG PROJECT

2.2.1 Trans-Alaska Pipeline

2.2.2 LNG Export Terminal

2.2.3 LNG Tanker Transport

2.2.4 Regasification Terminal A

2.2.5 Regasification Terminal B

3. ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECTS

Describe all known or expected significant environmental effects and changes, both beneficial and adverse, which will take place should the proposed action be carried out. These include changes in the natural environment, social well-being and land use. Include both direct and principle indirect changes in the existing environment in the immediate area and throughout the sphere of influence of the proposed action.*

3.1 ARCTIC GAS PIPELINE PROJECT

3.1.1 Alaska Arctic Pipeline

Impact assessment should be developed on a regional and corridor basis for the Alaska Arctic Pipeline Section, as appropriate. These elements should be analyzed separately for impacts from construction, operation, maintenance, and future plans. The same 3.x.x.x elements should also be developed for each of the other 3.x.x sections.

3.1.1.1 Climate.

3.1.1.2 Topography.

3.1.1.3 Geology.

3.1.1.4 Soils.

3.1.1.5 Water Resources.

3.1.1.6 Vegetation.

3.1.1.7 Wildlife.

3.1.1.8 Ecological Considerations.

3.1.1.9 Economic Factors

3.1.1.10 Sociological Factors
3.1.1.11 Land Use
3.1.1.12 Paleontological, Archaeological, and Historic.
3.1.1.13 Recreation and Aesthetic Resources

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*Changes in the Environment Throughout the Sphere of Influence of Proposed Action. Direct and indirect effects are those effects which can be discerned as occurring primarily because the proposed action would occur. For example: 1) the impact of a borrow pit would be evaluated to the extent that it would be developed or expanded but the manufacture of conventional trucks to work the pit would not; 2) the impact of construction workers moving into the area would be evaluated but not the impact of their leaving present homes. The impact of their subsequent leaving the project area, however, must be considered.

3.1.2 Canadian Pipeline

3.1.3 Northern Border Pipeline

3.1.4 San Francisco Pipeline

3.1.5 Los Angeles Pipeline

3.2 EL PASO LNG PROJECT

3.2.1 Trans-Alaska Pipeline

3.2.2 LNG Export Terminal

3.2.3 LNG Tanker Transport

3.2.4 Regasification Terminal A

3.2.5 Regasification Terminal B

4. MITIGATING MEASURES IN THE PROPOSED ACTION

For the entire proposal(s) and for each applicant describe and discuss measures which will enhance, protect, or reduce impacts to the environment.

4.1 ARCTIC GAS PIPELINE PROJECT

4.1.1 Alaska Arctic Pipeline

Discuss in detail the following issues in the context of the environmental factors discussed in section 3 (3.x.x.1 - 3.x.x.12); do the same in each 4.x.x. section.

4.1.1.1 Monitoring construction and operation of the project as proposed by applicant.

4.1.1.2 Restoration and enhancement as proposed by applicant.

4.1.1.3 Safety and emergency measures to be implemented during construction and operation as proposed by applicant.

4.1.1.4 General conditions and environmental stipulations for right-of-way grants, permits, leases, and contract sales, required by the Federal government.

4.1.1.5 Technical stipulations for right-of-way grants, permits, leases, and contract sales required by the Federal government.

4.1.1.6 Research and monitoring.

4.1.1.7 Compensation for fish, wildlife, recreation, and other losses.

a. Acquisition of lands and waters.
b. Acquisition of rights in lands and waters.
c. Salvage of archaeological or historic sites.

4.1.1.8 Other measures which could further reduce environmental impacts.

4.1.2 Canadian Pipeline

4.1.3 Northern Border Pipeline

4.1.4 San Francisco Pipeline

4.1.5 Los Angeles Pipeline

4.2 EL PASO LNG PROJECT

4.2.1 Trans-Alaska Pipeline

4.2.2 LNG Export Terminal

4.2.3 LNG Tanker Transport

4.2.4 Regasification Terminal A

4.2.5 Regasification Terminal B

5. ADVERSE EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

5.1 ARCTIC GAS

5.1.1 Alaska Arctic Pipeline

Discuss in detail the following issues in the context of the environmental factors discussed in section 3 (3.x.x.1 - 3.x.x.12); do the following for each 5.x.x. section.

5.1.1.1 Discuss relative values, analyzing who and what is affected, and to what degree.

5.1.1.2 Summarize the residual effects.

5.1.1.3 Discuss the impacts in relation to resources, activities, and values.

5.1.2 Canadian Pipeline

5.1.3 Northern Border Pipeline

5.1.4 San Francisco Pipeline

5.1.5 Los Angeles Pipeline

5.2 EL PASO LNG PROJECT

5.2.1 Trans-Alaska Pipeline

5.2.2 LNG Export Terminal

5.2.3 LNG Tanker Transport

5.2.4 Regasification Terminal A

5.2.5 Regasification Terminal B

6. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

For the entire proposal(s) and for each applicant discuss the extent the proposed action involves a trade-off between short-term environmental gains at the expense of long-term losses, or vice versa.

6.1 ARCTIC GAS

6.1.1 Alaska Arctic Pipeline

Discuss in detail the following issues; do the same for each 6.x.x section.

6.1.1.1 Describe who pays the environmental cost and detail the nature of such costs. Discuss risks to health and safety.

6.1.1.2 Discuss the extent that the proposed action forecloses future options.

6.1.1.3 Qualify "short-term and long-term" by stating the assumptions used.

7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES IF THE PROPOSED ACTION SHOULD BE IMPLEMENTED

For the entire proposal(s) and for each applicant describe the extent to which the proposed action irreversibly curtails the range of potential uses of the environment.

7.1 ARCTIC GAS

7.1.1 Alaska Arctic Pipeline

Discuss in detail the following issues; do the same for each 7.x.x section.

7.1.1.1 Damages from natural catastrophy or man-caused accidents.

7.1.1.2 Structures where it is unlikely that removal of project features would take place.

7.1.1.3 Resource extraction.

7.1.1.4 Erosion.

7.1.1.5 Destruction of archaeological or historical sites.

7.1.1.6 Elimination of endangered species habitat.

7.1.1.7 Irrevocable changes in land use.

7.1.1.8 Commitment of materials and human resources.

7.1.2 Canadian Pipeline

7.1.3 Northern Border Pipeline

7.1.4 San Francisco Pipeline

7.1.5 Los Angeles Pipeline

7.2 EL PASO LNG PROJECT

7.2.1 Trans-Alaska Pipeline

7.2.2 LNG Export Terminal

7.2.3 LNG Tanker Transport

7.2.4 Regasification Terminal A

7.2.5 Regasification Terminal B

8. ALTERNATIVES TO THE PROPOSED ACTION

For each of the following alternatives, describe where appropriate: (1) scope and nature of the proposal, (2) geographic areas affected, (3) environmental significance, (4) technological feasibility, (5) availability, and (6) economic feasibility.

8.1 ALTERNATIVE ARCTIC GAS PIPELINE ROUTES

8.1.1 Alaska Arctic Pipeline

8.1.2 Canadian Pipeline

8.1.3 Northern Border Pipeline

8.1.4 San Francisco Pipeline

8.1.5 Los Angeles Pipeline

8.2 ALTERNATIVE EL PASO LNG ROUTES AND LOCATION

8.2.1 Trans-Alaska Pipeline

8.2.2 LNG Export Terminal

8.2.3 LNG Tanker Transport

8.2.4 Regasification Terminal A

8.2.5 Regasification Terminal B

8.3 OTHER ACTIONS

8.3.1 No action.

8.3.2 Postponing action pending further study.

8.4 ALTERNATIVE NATURAL GAS SUPPLY SYSTEMS AND COMBINATION THEREOF

8.4.1 Imported LNG

8.4.2 Other Foreign Gas (e.g. Pan Arctic)

8.4.3 Other Domestic Gas

8.4.4 Alternative Individual Transmission Routes

8.4.5 Combination of Transmission Routes

8.5 ALTERNATIVE SOURCES OF ENERGY

8.5.1 Conversion of Liquid Hydrocarbon

8.5.2 Gasification of Coal

8.5.3 Coal Liquefication

8.5.4 Coal

8.5.5 Petroleum and Petroleum Products

8.5.6 Oil Shale

8.5.7 Nuclear Stimulation from Natural Gas Wells

8.5.8 Electricity from Nuclear Energy

8.5.9 Geothermal Wells

8.5.10 Magnetohydrodynamics

8.5.11 Solar Energy

8.5.12 Hydroelectric

8.5.13 Others

8.6 ALTERNATIVE TRANSPORTATION MODES

8.7 CONSERVATION OF ENERGY

9. CONSULTATION, COORDINATION, AND REVIEW

9.1 DESCRIBE CONSULTATION AND COORDINATION WITH FEDERAL, STATE, AND LOCAL OFFICIALS AND INDIVIDUALS, AND CANADIAN OFFICIALS AND INDIVIDUALS IN DEVELOPING THE STATEMENT

9.2 DESCRIBE PUBLIC PARTICIPATION EFFORTS AND MEANS OF OBTAINING PUBLIC VIEWS

9.3 DESCRIBE THE PROCEDURES TO BE USED IN DISSEMINATING THE DRAFT STATEMENT

9.3.1 List Organizations and Groups from Whom Comments are Being Requested

9.3.2 List Experts or Consultations Used in Reviewing the Draft Statement

9.4 FOR THE FINAL STATEMENT:

9.4.1 List Those Organizations, Groups, Experts, and Consultants from Whom Comments Were Received

9.4.2 State the Disposition of the Comments

9.4.3 State Any Unresolved Conflicts

9.4.4 Summarize the Public Response

APPENDIX A. APPLICANTS PERMITS AND COMPLIANCE WITH OTHER REGULATIONS AND CODES

A.1 PERMITS AND OTHER AUTHORIZATIONS

A.1.1 Applicants Identify All Necessary Federal, Regional, State, and Local Permits, Licenses, Certificates, and Other Authorizations Needed Before the Proposal Can Be Completed

A.1.2 Describe Steps Taken to Secure These Permits and Any Additional Efforts Still Required

A.1.3 Authorities Consulted

A.1.4 Dates of Approvals Received

A.2 COMPLIANCE WITH HEALTH AND SAFETY REGULATIONS AND CODES

A.2.1 Applicants Identify All Federal, Regional, State, and Local Safety and Health Regulations and Codes that Would Apply to Their Proposals

A.2.2 Authorities Consulted

A.2.3 Procedures to be Followed

A.3 COMPLIANCE WITH OTHER REGULATIONS AND CODES

A.3.1 Applicants Identify All Other Federal, Regional, State, and Local Regulations and Codes which Apply

A.3.2 Authorities Consulted

A.3.3 Procedures to be Followed

APPENDIX B. SOURCES OF INFORMATION AND ATTACHMENTS

B.1 INFORMATION WOULD INCLUDE:

B.1.1 Bibliography

B.1.2 List of Reports and Studies Used in Preparation of the Statement

B.1.3 Meetings

B.1.4 Consultants

B.2 ATTACHMENTS WOULD INCLUDE:

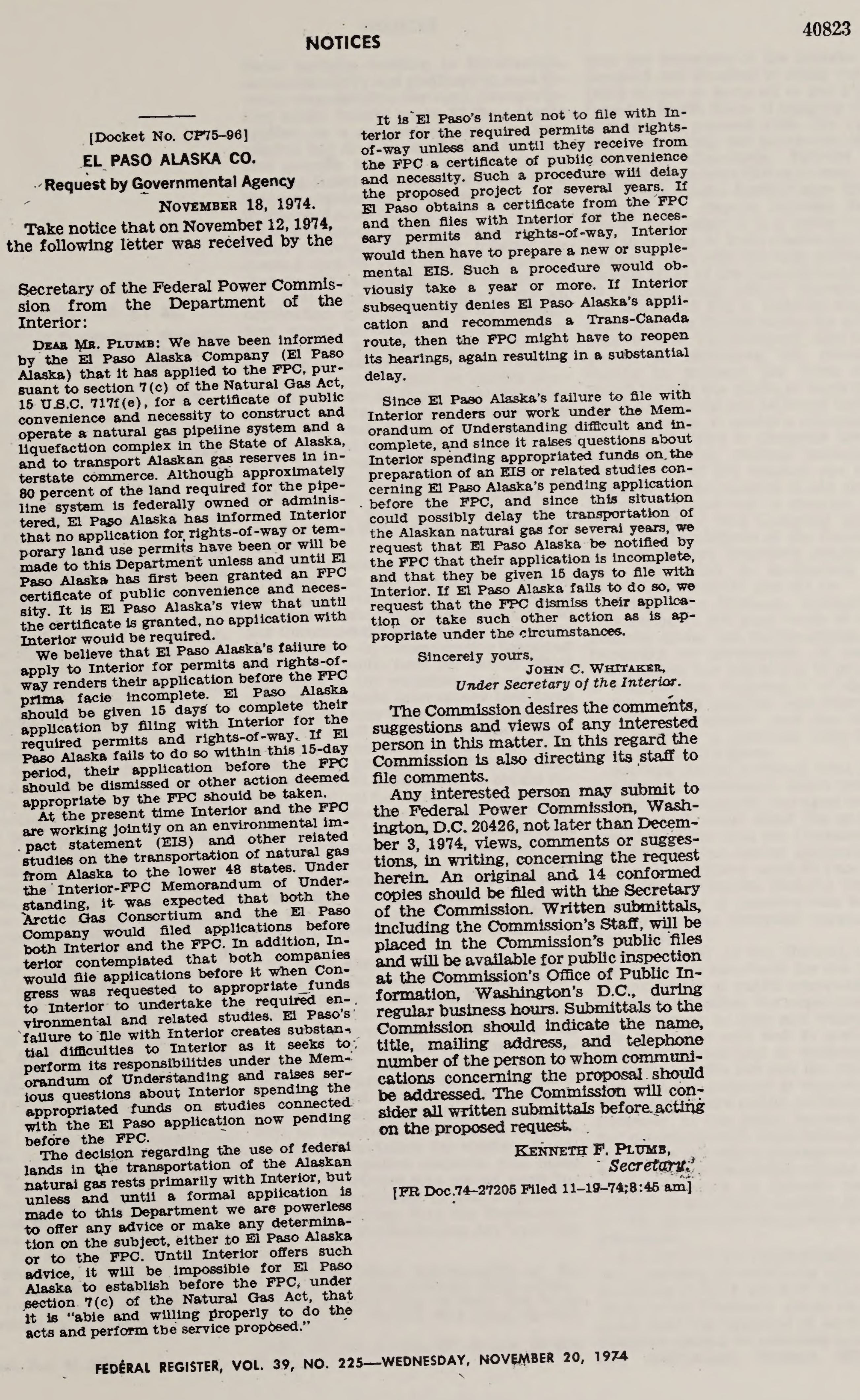
B.2.1 Agency Comments on Draft Statement

B.2.2 Any Backup Data or Studies or Reports Needed to Supplement the Statement

APPROVED:

DEPARTMENT OF INTERIOR	FEDERAL POWER COMMISSION
Project Manager	Project Manager
Date	Date

Attachment IV



[Docket No. CP75-96]

EL PASO ALASKA CO.

Request by Governmental Agency

NOVEMBER 18, 1974.

Take notice that on November 12, 1974, the following letter was received by the Secretary of the Federal Power Commission from the Department of the Interior:

DEAR MR. PLUMB: We have been informed by the El Paso Alaska Company (El Paso Alaska) that it has applied to the FPC, pursuant to section 7(c) of the Natural Gas Act, 15 U.S.C. 717f(e), for a certificate of public convenience and necessity to construct and operate a natural gas pipeline system and a liquefaction complex in the State of Alaska, and to transport Alaskan gas reserves in interstate commerce. Although approximately 80 percent of the land required for the pipeline system is federally owned or administered, El Paso Alaska has informed Interior that no application for rights-of-way or temporary land use permits have been or will be made to this Department unless and until El Paso Alaska has first been granted an FPC certificate of public convenience and necessity. It is El Paso Alaska's view that until the certificate is granted, no application with Interior would be required.

We believe that El Paso Alaska's failure to apply to Interior for permits and rights-of-way renders their application before the FPC prima facie incomplete. El Paso Alaska should be given 15 days to complete their application by filing with Interior for the required permits and rights-of-way. If El Paso Alaska fails to do so within this 15-day period, their application before the FPC should be dismissed or other action deemed appropriate by the FPC should be taken.

At the present time Interior and the FPC are working jointly on an environmental impact statement (EIS) and other related studies on the transportation of natural gas from Alaska to the lower 48 states. Under the Interior-FPC Memorandum of Understanding, it was expected that both the Arctic Gas Consortium and the El Paso Company would filed applications before both Interior and the FPC. In addition, Interior contemplated that both companies would file applications before it when Congress was requested to appropriate funds to Interior to undertake the required environmental and related studies. El Paso's failure to file with Interior creates substantial difficulties to Interior as it seeks to perform its responsibilities under the Memorandum of Understanding and raises serious questions about Interior spending the appropriated funds on studies connected with the El Paso application now pending before the FPC.

The decision regarding the use of federal lands in the transportation of the Alaskan natural gas rests primarily with Interior, but unless and until a formal application is made to this Department we are powerless to offer any advice or make any determination on the subject, either to El Paso Alaska or to the FPC. Until Interior offers such advice, it will be impossible for El Paso Alaska to establish before the FPC, under section 7(c) of the Natural Gas Act, that it is "able and willing properly to do the acts and perform the service proposed."

It is El Paso's intent not to file with Interior for the required permits and rights-of-way unless and until they receive from the FPC a certificate of public convenience and necessity. Such a procedure will delay the proposed project for several years. If El Paso obtains a certificate from the FPC and then files with Interior for the necessary permits and rights-of-way, Interior would then have to prepare a new or supplemental EIS. Such a procedure would obviously take a year or more. If Interior subsequently denies El Paso Alaska's application and recommends a Trans-Canada route, then the FPC might have to reopen its hearings, again resulting in a substantial delay.

Since El Paso Alaska's failure to file with Interior renders our work under the Memorandum of Understanding difficult and incomplete, and since it raises questions about Interior spending appropriated funds on the preparation of an EIS or related studies concerning El Paso Alaska's pending application before the FPC, and since this situation could possibly delay the transportation of the Alaskan natural gas for several years, we request that El Paso Alaska be notified by the FPC that their application is incomplete, and that they be given 15 days to file with Interior. If El Paso Alaska fails to do so, we request that the FPC dismiss their application or take such other action as is appropriate under the circumstances.

Sincerely yours,
JOHN C. WHITAKER,
Under Secretary of the Interior.

The Commission desires the comments, suggestions and views of any interested person in this matter. In this regard the Commission is also directing its staff to file comments.

Any interested person may submit to the Federal Power Commission, Washington, D.C. 20426, not later than December 3, 1974, views, comments or suggestions, in writing, concerning the request herein. An original and 14 conformed copies should be filed with the Secretary of the Commission. Written submittals, including the Commission's Staff, will be placed in the Commission's public files and will be available for public inspection at the Commission's Office of Public Information, Washington's D.C., during regular business hours. Submittals to the Commission should indicate the name, title, mailing address, and telephone number of the person to whom communications concerning the proposal should be addressed. The Commission will consider all written submittals before acting on the proposed request.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-27205 Filed 11-19-74;8:45 am]

Attachment V

[Docket No. CP75-96, etc]

EL PASO ALASKA CO. ET AL.

Order Consolidating Proceedings, Prescribing Procedures, Directing Completion of Application, and Establishing Prehearing Conference

JANUARY 23, 1975.

In the matter of El Paso Alaska Company, Docket No. CP75-96; Alaskan Arctic Gas Pipeline Company, Docket Nos. CP74-239, CP74-240; Pacific Gas Transmission Company, Docket Nos. CP74-241, CP74-242, CP71-182; Northern Border Pipeline Company, Docket Nos. CP74-290, CP74-291; Interstate Transmission Associates (Arctic), Pacific Interstate Transmission Company, and Northwest Energy Company, Docket Nos. CP74-292, CP74-293.

This order disposes first of a procedural matter relating to the responsibilities of the Federal Power Commission and the Department of the Interior (Interior) over a pipeline project which will cross public lands in Alaska.

El Paso Alaska on September 24, 1974, filed its application in Docket No. CP75-96 under section 7 of the Natural Gas Act seeking a certificate for the construction and operation of a pipeline from Prudhoe Bay on the Alaskan North Slope to Gravina Point, Alaska, and an LNG tanker transport system capable of delivering the gas to the California coast. The application on March 21, 1974, by Alaskan Arctic Gas Pipeline Company in Docket No. CP74-239 (Alaskan Arctic) may be a competing application, which proposes a pipeline from Prudhoe Bay through Canada to the lower 48 states. Other applications associated with that of Alaskan Arctic cover projects to carry the North Slope gas to the east and west coast, as listed above.

In order to define the responsibilities of the FPC Staff and Interior in the preparation of an environmental impact statement (EIS) under the National Environmental Policy Act (NEPA), 42 USC section 4321 et seq., for the proposed natural gas transportation from the Prudhoe Bay area to and in the lower United States the Secretary of the Interior and the Chairman of the Commission entered into a memorandum of understanding dated May 15, 1974.[1] The memorandum referred to Alaska Arctic's application for Federal permits and a certificate was expected from El Paso Alaska. The memorandum provided in some detail for an interagency task force, use of personnel, joint responsibility for those sections relating to liquefaction, ocean transport and gasification, and Interior responsibility for land transportation across federal lands. El Paso Alaska applied for a certificate from the Commission but filed no application for Federal permits to cross public lands, informing Interior on September 23, 1974, that no application would be made until it obtained a certificate.

On November 12, 1974, by letter from Under Secretary Whitaker, Interior requested that El Paso Alaska be notified that its FPC application was incomplete and that it be given 15 days to file an application with Interior or its application would be dismissed. Interior says that El Paso Alaska's failure to file with it raises questions about Interior spending appropriated funds on studies connected with the El Paso application now pending before the FPC. Interior also points out that the decision regarding use of Federal lands rests primarily with it but it can make no determination until an application is filed. If El Paso Alaska waits until it receives a certificate, it says, Interior would have to prepare a supplemental EIS with a delay of a year or more.

The Staff comments that El Paso Alaska's failure to file with Interior will be detrimental (1) to the Staff's ability to function within the memorandum, (2) to the Commission's ability to consider the two proposals on a comparative basis and (3) to the public need for energy. Staff says that if the situation remains unchanged the joint interagency task force can consider only the Alaskan Arctic proposal and Staff will have to make a separate environmental evaluation of the El Paso Alaska proposal. Staff thinks that the need for El Paso Alaska to obtain Interior approval for its project has a direct bearing on whether it is "able and willing properly" to do the acts and perform the services proposed under section 7(e) of the Natural Gas Act. Staff suggests that the Commission advise El Paso Alaska that its application is deficient and that no further action can be taken until appropriate filings are made with Interior.

El Paso Alaska, on the other hand, argues that the Commission should exercise the primary role, and that the basic problem is whether it will be obligated to pay the expenses of Interior for its activities in connection with the FPC application. It contends that Interior's ability to expend appropriated funds is not dependent upon an El Paso Alaska application, and quotes from representations of Interior to Congress in requesting an appropriation for studies of several arctic pipeline projects, and notes that no restriction was placed upon Interior appropriations in this respect.[2] It points out further that the Trans-Alaskan Pipeline Authorization Act[3] provides that the Secretary of the Interior is authorized and directed to study the feasibility of one or more oil or gas pipelines from the North Slope. It suggests that the Commission proceed with the applications, requesting the assistance of Interior, and afterwards, Interior could adopt the approved EIS as its own.

El Paso Alaska further says that underlying the dispute between El Paso Alaska and Interior is a desire by Interior to charge El Paso Alaska for studies in connection with the case relying upon section 28(1) of the Mineral Leasing Act, 30 U.S.C. section 185(1) providing that the applicant for a right-of-way shall reimburse the United States for administrative costs. The Company says no obligation to reimburse the government should be imposed for those services which benefit the public at large and the applicant should not be taxed unless the grant is made. It quotes a representation made by Interior to Congress that costs associated with making investigations and studies of the Alaskan gas pipeline projects will be charged to the applicant as each right-of-way is granted (Hearings p. 1010). The Company also says that the Regulations of the Commission do not support Interior's position that the application is incomplete citing §§157.5, 157.6(b)(5) and 157.14.

Finally, the Company contends that frustration of the joint study of the two projects under the memorandum is not necessary or permissible. It says the Commission has full power to proceed to a comparative evaluation of the proposals; NEPA requires that Interior assist the Commission; and the Commission is under a statutory duty to consider alternative plans.

Alaskan Arctic contends that preparing the EIS statements above would impose a tremendous burden upon the Commission and would delay the project. It therefore urges that the Commission reject the El Paso Alaska application and hold it in abeyance until El Paso Alaska cures its deficiencies. Natural Gas Pipeline Company of America and Northern Border Pipeline Company support Alaskan Arctic.

Section 7(e) of the Natural Gas Act sets forth the standards for the issuance of certificates of public convenience and necessity including the requirement that the applicant be able and willing properly to do the acts and to perform the service proposed and to conform to the provisions of the Act and the regulations and that the proposal is required by the present or future public convenience and necessity. At this stage, however, we are not concerned with these ultimate determinations but with a procedural question as to whether we should require El Paso Alaska to apply to Interior before we proceed to hearing or consider the merits of this application along with other applications.

A review of the Commission's regulations relating to certificate applications, including §§ 157.5, 157.6(b)(5) and 157.14 cited by the Company, shows no requirement that the approval of another government agency be obtained to complete the application. Section 157.6(b)(5) merely requires a statement as to whether any other application must be or is to be filed with another regulatory body. It is argued, however, by Alaskan Arctic that the memorandum, published in the Federal Register, established a procedural rule for applications to transport gas from Alaska's north slope. In our opinion the memorandum provided a procedure governing the two agencies. It contemplated that El Paso Alaska would file with Interior but did not require it, nor could it do so as it was in no sense a rule-making binding private parties.

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[1] 39 FR 26481, July 19, 1974.

[2] Hearings before Subcommittee of the Committee on Appropriations, House of Representatives, 93rd Cong. 2d Sess., Part 4, pp. 998, 1009; P.L. 93-404, 93rd Cong., 2d Sess. 88 Stat. 803.

[3] P.L. 93-153, 87 Stat. 567 et. seq. Section 302(a).

Apart from the regulations, the Commission, of course, can reject or defer action on an application which is defective on its fact and can dismiss applications that fail to meet certain criteria. Here there is no disagreement that in order to build the line El Paso Alaska must have a Federal permit from Interior, but it clearly intends to file an application for such a permit when and if it obtains an FPC certificate. There is, therefore, no basis for saying, as Staff argues, that El Paso Alaska is not "able and willing properly" to do the acts proposed. In fact, we make no requirements that applicants for certificates bring proceedings to acquire rights of way or file applications to cross Federal lands in advance of acquiring certificates.[4] It would be discriminatory to do so here even though some 80 percent of the land required is federally owned.

Furthermore, El Paso Alaska's proposal provides an alternative to the Alaskan Arctic pipeline through Canada. In order to permit us to approve a project most in accord with the public convenience and necessity a comparative hearing with the several projects before us is essential and in accord with Ashbacker Radio Corp. v. FPC, 3260 section 327 (1945), unless, of course, it should be demonstrated that sufficient Alaska reserves exist to justify both proposals. Also, under NEPA we are required to study, develop and describe appropriate alternatives to recommended courses of action [section 102(d)]. To prevent or delay consideration of El Paso Alaska's project would prevent such a comparative hearing or comparative study in view of the present gas shortage and would be detrimental to the public interest to delay consideration of Alaskan Arctic and other projects.

In these circumstances we shall deny Interior's request and proceed to a comparative hearing, phased in two parts as described below. As required by our Regulations (§ 157.14(a)(6–d)) El Paso Alaska has filed an extensive environmental report with its application. Under § 2.82(b) of our General policy and Interpretations the report will assist our staff in preparing an analysis and draft environmental impact statement prior to hearing on a pipeline application. Under the memorandum of understanding with Interior it is contemplated that an interagency task force will participate in the analysis of environmental data, including that submitted by the parties, and jointly prepare an environmental impact statement with Interior responsible for land transportation across federal lands. While Interior raises a question whether it can spend appropriated funds on such studies in the absence of an application from El Paso Alaska, we hope that Interior personnel can continue to cooperate with our staff in the manner stated in the memorandum. If not, our staff will prepare a draft environmental impact statement on the basis of the information available, and we shall proceed with a comparative hearing and consideration of the applications before us and will prepare the necessary detailed environmental impact statement in connection with the issuance of any certificates.

Having resolved the procedural matter with respect to El Paso Alaska, we turn now to the proposal which constitutes one of the largest construction proposals which this commission has entertained. On March 21, 1974, Alaskan Arctic Gas Pipeline Company (Alaskan Arctic) filed in Docket No. CP74–239 an application for a certificate of public convenience and necessity requesting authorization to construct and operate approximately 195 miles of 48-inch pipeline from Prudhoe Bay on the North Slope of Alaska to the Alaskan-Canadian Border at an estimated cost of $575 million in order to deliver Alaskan gas to the Canadian Alaskan international border for further transportation of gas through Canada for delivery to the lower 48 states. Concurrently therewith Alaskan Arctic filed in Docket No. CP74–240 an application requesting a Presidential Permit to construct and operate facilities at the international border between Alaska and the Yukon Territory of the Dominion of Canada pursuant to Executive Order No. 10485.[5] On November 15, 1974 and December 30, 1974, Alaskan Arctic supplemented its application in Docket No. CP74–239 by submitting certain of the required exhibits missing from its original application.

A number of other pipeline companies have filed applications for the construction and operation of facilities to transport Alaskan and Canadian Arctic gas once it arrives in the contiguous 48 states through the Alaskan Arctic proposal. In this regard, Pacific Gas Transmission Company (PGT) proposes in Docket No. CP74–241 to construct and operate approximately 618 miles of 42-inch pipeline parallel to its existing mainline from the Idaho border near Kingsgate, British Columbia, to the interconnection with the facilities of Pacific Gas and Electric Company at the Oregon-California border in order to transport 1,000,000 Mcf of gas per day which will be attributed to Arctic production and 200,000 Mcf/d of gas attributable to currently contracted sources in Alberta, Canada. PGT also filed an application in Docket No. CP74–242 requesting a Presidental Permit for the construction and operation of facilities at the United States-Canadian border near Kingsgate, British Columbia.[6] In Docket No. CP71–182 PGT has requested authorization pursuant to section 3 of the Natural Gas Act to import into the United States from Canada the said 200,000 Mcf of gas per day from Alberta.[7] Northern Border Pipeline Company, a partnership to be succeeded by Northern Border Pipeline Corporation (Northern Border) filed in Docket No. CP74–290 an application for a certificate requesting authorization to construct and operate approximately 1,619 miles of 48, 42, 36, and 26-inch diameter pipeline, including thirty compressor stations from a point on the Montana-Canadian boundary near Monchy, Saskatchewan, to a terminus near Delmont, Pennsylvania, at a total estimated cost of $1.8 billion, in order to transport Alaskan and Canadian Arctic gas being delivered through the Alaskan Arctic project. Northern Border also filed an application in Docket No. CP74–291 for a Presidential Permit for the construction and operation of facilities at the United States-Canadian border near Monchy, Saskatchewan.[8] Interstate Transmission Associates (Arctic), Pacific Interstate Transmission Company and Northwest Energy Company (ITA) in Docket No. CP74–292 have requested authorization to construct and operate approximately 373 miles of 42-inch diameter pipeline from the Idaho-Canadian boundary near Kingsgate, British Columbia to Rye Valley, Oregon, and approximately 504 miles of 36-inch pipeline from Rye Valley to a point on the California-Nevada border near Oasis, California in order to transport Alaskan and Canadian Arctic gas received at Kingsgate. Likewise this group of pipeline companies have requested a Presidential Permit in Docket No. CP74–293 for the construction and operation of facilities at the United States-Canadian border near Kingsgate, British Columbia.[9] On November 15, 1974, ITA and Northern Border filed supplements to their applications in Docket Nos. CP74–290 and CP74–292 by submitting some of the required exhibits missing from their original applications.

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[4] See for example: *Arkansas Louisiana Gas Company*, 47 FPC 583 (1972); *Stingray Pipeline Company, et al.* ——FPC. . . . Opinion No. 693, Docket No. CP73–27, *et al.*, May 6, 1974; Section 15720 of our Regulations under the Natural Gas Act.

[5] Notice of Alaskan Arctic's original applications was given by publication in the Federal Register on April 15, 1974 (39 FR 13590).

[6] Notice of PGT's original applications in Docket Nos. CP74–241 and 242 was given by publication in the Federal Register on April 15, 1974 (39 FR 13596).

[7] Notice of PGT's application in Docket No. CP71–182 was given by publication in the Federal Register on January 26, 1971 (36 FR 1231).

[8] Notice of Border Pipeline's original applications was given by publication in the Federal Register on June 14, 1974 (39 FR 20819).

[9] Notice of ITA's original applications was given by publication in the Federal Register on June 5, 1974 (39 FR 19992).

In Docket No. CP75–96 El Paso Alaska Company (El Paso Alaska) filed an application seeking authorization to construct and operate a combination chilled vapor pipeline totaling approximately 809 miles and LNG ocean common carrier transport system capable of delivering Alaskan North Slope gas to the California coast for ultimate delivery to all of the major continental natural gas market areas by a combination of displacement reverse flow on its existing east-west pipeline and the construction of new connecting transmission facilities. El Paso Alaska proposes as the southern terminus of its project the Point Conception California LNG terminal proposed to be constructed and owned by Western LNG Terminal Company (Western Terminal). In Docket No. CP75–83 Western Terminal has proposed to use sites located at Los Angeles, Oxnard, and Point Conception, California to receive, unload, store and vaporize liquefied natural gas. Western Terminal in said docket does not indicate any specific sources for the LNG to be delivered at such terminals; however, El Paso Alaska in the above mentioned application proposes to utilize most of the planned capacity at the Point Conception Terminal.[10]

The Alaskan Arctic and the El Paso Alaska proposals with their related applications represent projects to bring Alaskan gas from the North Slope into the continental United States. Both Alaskan Arctic and El Paso Alaska intend to operate as contract carriers of natural gas and not as pipeline purchasers of gas since both applications rely on Prudhoe Bay gas as their primary source of transportation gas, the applications may be mutually exclusive. We believe therefore that these projects including the aforesaid related applications of other pipelines may involve common questions of law and fact and that these applications should be consolidated for disposition and hearing on all issues arising thereunder, pursuant to § 1.20(b) of the Commission's rules of practice and procedure.

Although we are consolidating these applications now all proposals before the Commission are deficient. Neither the Alaskan Arctic group nor the El Paso Alaska proposal include all of the necessary exhibits as prescribed by § 157.14 of the Commission's regulations under the Natural Gas Act, which are needed to make a complete and thorough analysis of the feasibility of each project. In this regard we note that, inter alia, the following exhibits are missing from some of these applications:

H—Total Gas Supply Data
I—Market Data
K—Cost of Facilities
L—Financing
N—Reserves—Expenses—Income
O—Depreciation and Depletion
P—Tariff

El Paso Alaska has submitted only a very limited amount of information in respect to the ocean transport phase of its application. Additionally the application in Docket No. CP71–182 has not been updated since it was filed on January 13, 1971, to reflect recent events.

The continuing natural gas shortage faced by this nation threatens the economic and social well being of the United States in an almost unprecedented manner. It requires this Commission, jurisdictional pipe line companies, and natural gas producers to take vigorous and imaginative steps to replenish our natural gas resources and to insure that the public obtains needed gas supplies within the bounds of public convenience and necessity and our statutory duty under the Natural Gas Act. With this in mind, we note that both proposals are deficient and ordinarily hearings on these applications would be held in abeyance pending submittal of missing information. While we emphasize this would be our usual course, the unusual circumstances herein require us to proceed without delay. The American public and this Commission expect a best efforts attempt by the Applicants to complete their applications and remedy all deficiencies on or before March 3, 1975, inclusive of the filing of all interrelated applications effectuating the sale, transportation and resale of the natural gas herein involved. We shall take the extraordinary step of ordering formal hearings, subject to the full cooperation of all applicants and shall further direct our Staff to file and serve on all parties on March 20, 1975, a report of any outstanding deficiencies for our consideration.

Since the subject proposals may be competitive and are extremely important because of the issues they raise, it is almost axiomatic that consolidated formal hearings are required to develop an evidentiary record. In this regard the hearing will be phased for testimony, but not for decision or briefing. Our Staff is currently in the process of preparing an environmental impact statement, as required by the National Environmental Policy Act, in conjunction with the Department of the Interior, and the final statement may not be ready by the beginning of the hearing herein scheduled. Thus, the first phase of the hearing should be concerned with the usual prerequisites by Applicants establishing a prima facie case under section 7 and section 3; inter alia, gas supply, markets, cost of facilities, financing, reserves, expenses, income, tariff, system design, and environmental reports.

Phase II of the hearing shall be concerned only the issues raised by Staff's Final Environmental Impact Statement. Environmental testimony from interested parties including the Commission Staff shall begin after the Staff's Final Environmental Impact Statement is issued and notice of its availability is published in the FEDERAL REGISTER. The Presiding Administrative Law Judge is instructed to set a date for the filing of environmental testimony within 30 days from the issuance of Staff's final statement giving due regard to the needs of all parties for time to evaluate the statement. Environmental testimony by all parties and Staff in support of Staff's statement shall be heard first and at the close of this testimony the Administrative Law Judge shall set dates for the filing of answering and rebuttal testimony. Under no circumstances should the Presiding Judge permit this record to be closed prior to insertion of the Final Environmental Impact Statement of the Commission Staff.

In regard to the first phase of the hearing, we find it necessary to establish certain procedures for the orderly presentation of evidence. A pre-hearing conference shall be convened on April 7, 1975, at which time any party desiring to make an opening statement of position shall submit such statement in writing for transcription into the record. No oral statements of position will be permitted.

At such pre-hearing conference, in addition to the matters specified in § 1.8(g) and 1.18(b) of the rules of practice and procedure, the Presiding Judge should consider a procedure for the numbering of exhibits and items by reference, order of witnesses, order of cross-examination and such other matters as will facilitate the smooth and orderly course of the hearing.

The applicants shall submit their prepared testimony as to Phase I on or before March 24, 1975, with a formal hearing scheduled to commence on May 5, 1975. At the close of the applicants' evidence the designated Presiding Administrative Law Judge shall set dates for the submittal of any intervener's and the Commission Staff's testimony and rebuttal evidence by the applicants.

A number of parties have already been permitted to intervene in Docket Nos. CP74–239, CP74–240, CP74–241, CP74–242, CP74–290, CP74–291, CP74–292, CP 74–293, and CP71–182. Any petitioner who has previously been permitted to intervene in any one of these proceedings is deemed an intervener in all dockets concerned herein.

The Commission further finds: (1) It is necessary and appropriate in the administration of the Natural Gas Act that Interior's request that El Paso Alaska be required to file an application with Interior be denied.

(2) It is necessary and appropriate that the proceedings relating to the transportation of natural gas from Prudhoe Bay to the lower 48 states should be consolidated for hearing.

The Commission orders: (A) Interior's request that El Paso Alaska be required to file an application with Interior is denied.

(B) Pursuant to § 1.20(b) of the Commission's rules of practice and procedure, the proceedings in El Paso Alaska Company, Docket No. CP75–96; Alaskan Arctic Pipeline Company, Docket Nos. CP74–239 and CP74–240; Pacific Gas Transmission Company, Docket Nos. CP74–241, CP74–242, and CP71–182; Northern Border Pipeline Company, Docket Nos. CP 74–290 and CP74–291; and Interstate Transmission Associates (Arctic), Pacific Interstate Transmission Company, and Northwest Energy Company, Docket Nos. CP74–292 and CP74–293 are consolidated for hearing and decision.

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[10] Notice of El Paso Alaska's original application was given by publication in the FEDERAL REGISTER on November 13, 1974 (39 FR 40075).

(C) A pre-hearing conference is to be convened on April 7, 1975 in a Federal building to be designated by the Presiding Administrative Law Judge to discuss procedural issues as noted in this order. Parties planning to attend this conference shall notify the Administrative Law Judge's office by letter at least two weeks prior to such a date. In the event that a hearing room of the Federal Power Commission cannot be utilized, the designated Administrative Law Judge shall notify all parties of the place and address of the conference at least a week prior to such conference.

(D) A formal hearing in the subject proceedings shall commence on May 5, 1975, concerning the issues designated herein as Phase I, in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE, Washington, D.C., 20426, at 10 a.m. (e.s.t.).

(E) A Presiding Law Judge to be designated by the Chief Law Judge for that purpose—see Delegation of Authority, 18 CFR 3.5(d)—shall preside at the hearing in this proceeding pursuant to the Commission's rules of practice and procedure. All testimony and evidence shall be served upon the Presiding Judge, the Commission Staff, and all parties to this proceeding.

(F) The direct case of Applicants as to all issues to be considered in Phase I shall be filed and served on all parties of record including the Commission Staff on or before March 24, 1975. Following the conclusion of cross-examination thereon, the Presiding Law Judge shall set such dates as are reasonable for the submission of testimony from interveners and Commission Staff and of answering and rebuttal cases, if any, for Phase I. The Administrative Law Judge shall set dates for the submittal of environmental testimony in Phase II as heretofore outlined.

(G) The record of this proceeding shall remain open until the submission of the Commission Staff's final environmental impact statement and environmental testimony is heard, and no initial decision shall be issued by the Administrative Law Judge until inclusion of the environmental impact statement in the record and appropriate consideration thereof.

(H) El Paso Alaska shall within three days of this order tender for payment any delinquent fees prescribed by § 159.2 (a) of the Commission's Regulations for its application filed in Docket No. CP75–96.

(I) Applicants in this consolidated proceeding shall perfect their applications on or before March 3, 1975.

(J) All petitioners heretofore granted interventions in one or more of the instant dockets we deemed to be interveners in all of the dockets herein consolidated.

By the Commission.

Kenneth F. Plumb,
Secretary.

[FR Doc.75–2751 Filed 1–29–75;8:45 am]

[Docket No. RP72–150, etc.]

EL PASO NATURAL GAS CO.

Further Extension of Procedural Dates

January 23, 1975.

On December 3, 1974, Staff Counsel filed a motion to extend the procedural dates fixed by order issued February 8, 1974, as most recently modified by notice issued July 29, 1974, in the above-designated matter. On December 10, 1974, El Paso Natural Gas Company filed an answer to the above motion.

Upon consideration, notice is hereby given that the procedural dates in the above matter are modified as follows:

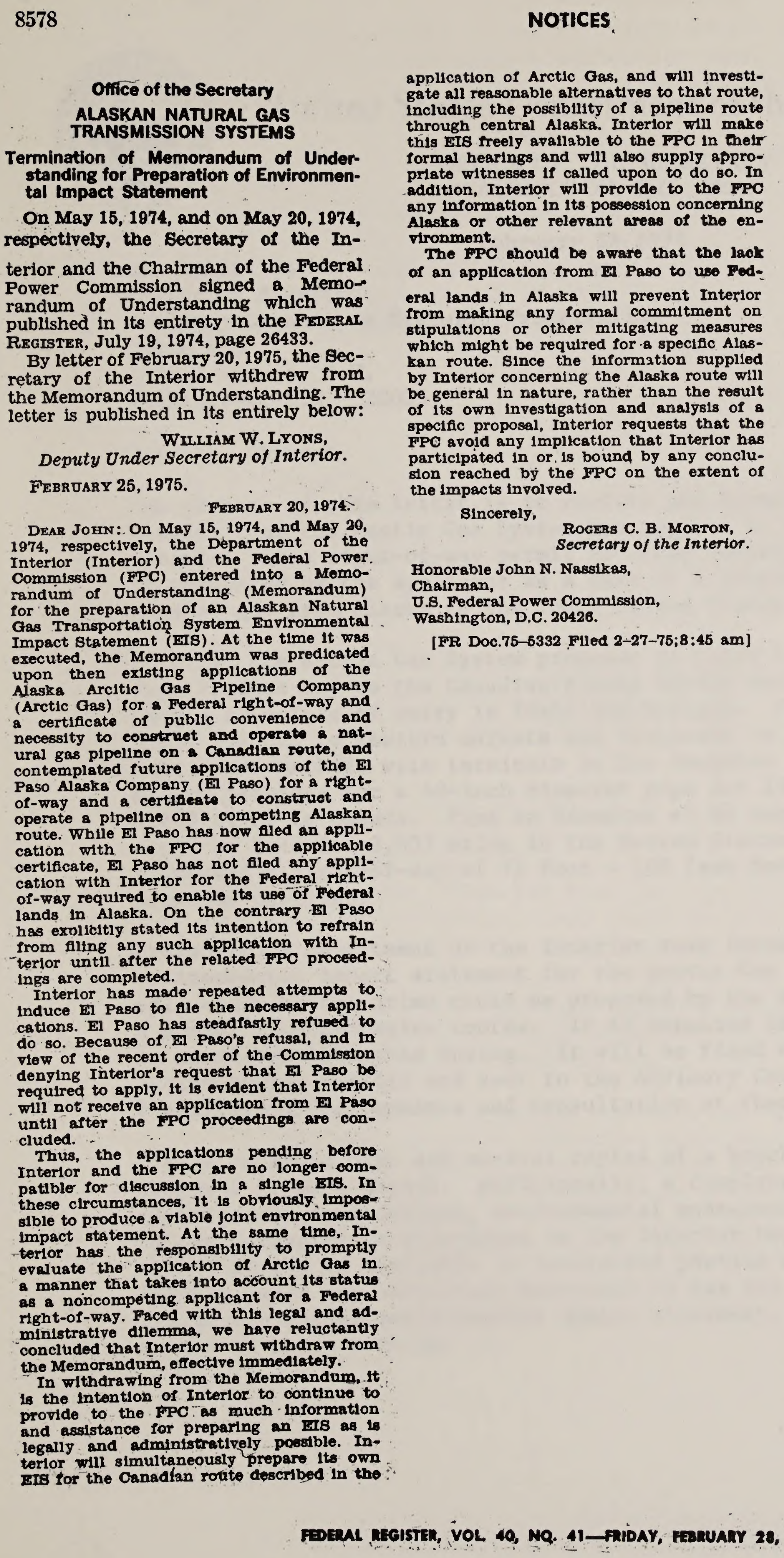
Service of Staff's Testimony, April 4, 1975.
Service of Intervenor's Testimony, April 25, 1975.
Service of Company Rebuttal, May 16, 1975.
Prehearing Conference, May 22, 1975 (10 a.m. e.d.t.).
Hearing, June 3, 1975 (10 a.m. e.d.t.).

By direction of the Commission.

Kenneth F. Plumb,
Secretary.

[FR Doc.75–2752 Filed 1–29–75;8:45 am]

Attachment VI



Office of the Secretary

ALASKAN NATURAL GAS TRANSMISSION SYSTEMS

Termination of Memorandum of Understanding for Preparation of Environmental Impact Statement

On May 15, 1974, and on May 20, 1974, respectively, the Secretary of the Interior and the Chairman of the Federal Power Commission signed a Memorandum of Understanding which was published in its entirety in the FEDERAL REGISTER, July 19, 1974, page 26433.

By letter of February 20, 1975, the Secretary of the Interior withdrew from the Memorandum of Understanding. The letter is published in its entirely below:

WILLIAM W. LYONS,
Deputy Under Secretary of Interior.

FEBRUARY 25, 1975.

FEBRUARY 20, 1974.

DEAR JOHN: On May 15, 1974, and May 20, 1974, respectively, the Department of the Interior (Interior) and the Federal Power Commission (FPC) entered into a Memorandum of Understanding (Memorandum) for the preparation of an Alaskan Natural Gas Transportation System Environmental Impact Statement (EIS). At the time it was executed, the Memorandum was predicated upon then existing applications of the Alaska Arcitic Gas Pipeline Company (Arctic Gas) for a Federal right-of-way and a certificate of public convenience and necessity to construct and operate a natural gas pipeline on a Canadian route, and contemplated future applications of the El Paso Alaska Company (El Paso) for a right-of-way and a certificate to construct and operate a pipeline on a competing Alaskan route. While El Paso has now filed an application with the FPC for the applicable certificate, El Paso has not filed any application with Interior for the Federal right-of-way required to enable its use of Federal lands in Alaska. On the contrary El Paso has explicitly stated its intention to refrain from filing any such application with Interior until after the related FPC proceedings are completed.

Interior has made repeated attempts to induce El Paso to file the necessary applications. El Paso has steadfastly refused to do so. Because of El Paso's refusal, and in view of the recent order of the Commission denying Interior's request that El Paso be required to apply, it is evident that Interior will not receive an application from El Paso until after the FPC proceedings are concluded.

Thus, the applications pending before Interior and the FPC are no longer compatible for discussion in a single EIS. In these circumstances, it is obviously impossible to produce a viable joint environmental impact statement. At the same time, Interior has the responsibility to promptly evaluate the application of Arctic Gas in a manner that takes into account its status as a noncompeting applicant for a Federal right-of-way. Faced with this legal and administrative dilemma, we have reluctantly concluded that Interior must withdraw from the Memorandum, effective immediately.

In withdrawing from the Memorandum, it is the intention of Interior to continue to provide to the FPC as much information and assistance for preparing an EIS as is legally and administratively possible. Interior will simultaneously prepare its own EIS for the Canadian route described in the application of Arctic Gas, and will investigate all reasonable alternatives to that route, including the possibility of a pipeline route through central Alaska. Interior will make this EIS freely available to the FPC in their formal hearings and will also supply appropriate witnesses if called upon to do so. In addition, Interior will provide to the FPC any information in its possession concerning Alaska or other relevant areas of the environment.

The FPC should be aware that the lack of an application from El Paso to use Federal lands in Alaska will prevent Interior from making any formal commitment on stipulations or other mitigating measures which might be required for a specific Alaskan route. Since the information supplied by Interior concerning the Alaska route will be general in nature, rather than the result of its own investigation and analysis of a specific proposal, Interior requests that the FPC avoid any implication that Interior has participated in or is bound by any conclusion reached by the FPC on the extent of the impacts involved.

Sincerely,

ROGERS C. B. MORTON,
Secretary of the Interior.

Honorable John N. Nassikas,
Chairman,
U.S. Federal Power Commission,
Washington, D.C. 20426.

[FR Doc.75–5332 Filed 2–27–75;8:45 am]

Attachment VII

March 3, 1849

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

February 28, 1975

FEB 2 8 1975

Mr. Robert Garvey
Executive Director
Advisory Council on Historic Preservation
Suite 430
1522 K Street, N.W.
Washington, D.C. 20005

Dear Mr. Garvey:

The purpose of this letter is to confirm and formally notify the Advisory Council that the Arctic Gas System has applied to the Secretary of the Interior for a right-of-way permit to cross Federal lands. This permit is requested by the applicant as a part of a proposal to transport natural gas from Alaska to the lower United States.

Briefly, the Arctic Gas System proposes to build a natural gas pipeline from Prudhoe Bay to the Canadian/Alaska Border and then southward through Canada to points of entry in Idaho and Montana. From here, pipelines would fan out to eastern markets and terminate in Pennsylvania, and to west coast markets with terminals in Los Anageles and San Francisco. This system provides for a 48-inch diameter pipe for 195 miles in Alaska and 1,743 miles in Canada. Pipe in diameter of 42 inches and 36 inches would be laid for 3,607 miles in the United States. The applicants have requested a right-of-way of 75 feet - 100 feet for the length of the proposed pipeline.

Presently, a Department of the Interior task force is preparing a "draft" environmental impact statement for the Arctic Gas System. The statement will evaluate the prime route as proposed by the applicant, as well as a number of alternative routes. It is expected the draft statement will be completed late this Spring. It will be filed with the Council on Environmental Quality and sent to the Advisory Council on Historic Preservation for comments and consultation at that time.

I have included maps and several copies of a brochure which cover the proposal in more detail. Additionally, a complete public file which contains all applications, environmental assessments, and reports filed by the companies is maintained in the Interior Department Building, Room 1540 and is available to interested parties at anytime. If the Council needs any additional materials or has any questions about the Arctic Gas System environmental impact statement, please do not hesitate to get in touch with me.

The Department of the Interior looks forward to working closely with the Advisory Council in order to develop a comprehensive program for the protection of cultural resources.

Sincerely,

(Sgd) Douglas P. Wheeler

Douglas P. Wheeler
Federal Representative to
the National Register

Enclosures

Attachment VIII

Advisory Council
On Historic Preservation
1522 K Street N.W. Suite 430
Washington D.C. 20005

MAR 19 1975

Mr. Douglas Wheeler
Deputy Assistant Secretary for Fish
  and Wildlife and Parks
U.S. Department of the Interior
Room 3148
Washington, D.C. 20240

Dear Mr. Wheeler:

This is in response to your letter of February 28, 1975 concerning the proposal by the Secretary of the Interior to issue a right-of-way permit to the Arctic Gas System to cross Federal lands in Alaska and other states with gas pipelines. The Advisory Council welcomes the opportunity to review such background material prior to issuance of the environmental statement for the proposed undertaking. However, the Department of the Interior should be aware that pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Council will be unable to comment substantively on the environmental statement unless it contains sufficient documentation detailing the following information:

I. Compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470[f]). The Council must have evidence that the most recent listing of the National Register of Historic Places has been consulted (see Federal Register, February 4, 1975 and monthly supplements each first Tuesday thereafter) and that either of the following conditions is satisfied:

   A. If no National Register property is affected by the project, a section detailing this determination must appear in the environmental statement.

   B. If a National Register property is affected by the project, the environmental statement must contain an account of steps taken in compliance with Section 106 and a comprehensive discussion of the contemplated effects on the National Register property. (Procedures for compliance with Section 106 are detailed in the Federal Register of January 25, 1974.)

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress in the field of Historic Preservation.

II. Compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" of May 13, 1971.

A. Under Section 2(a) of the Executive Order, Federal agencies are required to locate, inventory, and nominate eligible historic, architectural and archeological properties under their control or jurisdiction to the National Register of Historic Places. The results of this survey should be included in the environmental statement as evidence of compliance with Section 2(a).

B. Until the inventory required by Section 2(a) is complete, Federal agencies are required by Section 2(b) of the Order to submit proposals for the transfer, sale, demolition, or substantial alteration of federally owned properties eligible for inclusion in the National Register to the Council for review and comment. Federal agencies must continue to comply with Section 2(b) review requirements even after the initial inventory is complete, when they obtain jurisdiction or control over additional properties which are eligible for inclusion in the National Register or when properties under their jurisdiction or control are found to be eligible for inclusion in the National Register subsequent to the initial inventory.

The environmental statement should contain a determination as to whether or not the proposed undertaking will result in the transfer, sale, demolition or substantial alteration of eligible National Register properties under Federal jurisdiction. If such is the case, the nature of the effect should be clearly indicated as well as an account of the steps taken in compliance with Section 2(b). (Procedures for compliance with the Executive Order are detailed in the Federal Register of January 25, 1974, "Procedures for the Protection of Historic and Cultural Properties," pp. 3366-3370.)

C. Under Section 1(3), Federal agencies are required to establish procedures regarding the preservation and enhancement of non-federally owned historic, architectural, and archeological properties in the execution of their plans and programs.

The environmental statement should contain a determination as to whether or not the proposed undertaking will contribute to the preservation and enhancement of non-federally owned districts, sites, buildings, structures and objects of historical, architectural or archeological significance.

III. Contact with the appropriate State Historic Preservation Officer.

The procedures for compliance with Section 106 of the National Historic Preservation Act of 1966 and the Executive Order 11593 require the Federal agency to consult with the appropriate State Historic Preservation Officer. For your convenience, enclosed is a list of the State Historic Preservation Officers for the individual states across which the proposed gas lines will run.

Should you have any questions or require any additional assistance, please contact Michael H. Bureman of the Advisory Council staff at P. O. Box 25085, Denver, Colorado 80225, telephone number (303) 234-4946.

Sincerely yours,

John D. McDermott

John D. McDermott
Director, Office of Review
and Compliance

Enclosure

Attachment IX

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

December 6, 1974

Memorandum

To: Interested Parties

Subject: Public Meetings on Proposed Alaskan Natural Gas Transportation Systems

The Federal Government has received proposals for the transportation of natural gas from the Alaskan Arctic North Slope (Prudhoe Bay Field) to the markets of the lower United States. Natural gas transmission facilities need Certificates of Public Convenience and Necessity from the Federal Power Commission and rights of way permits to cross Federal lands from the Department of the Interior.

A memorandum of understanding was executed by the Federal Power Commission and the Department of the Interior to jointly prepare a single environmental impact statement on the gas transportation systems. The agreement was published in the July 19, 1974, Federal Register. Staff work by the interagency task force is under way to prepare a Draft Environmental Impact Statement, and field teams have been established in Anchorage, Alaska, Portland, Oregon, and Denver, Colorado.

Public information meetings will be held in several locations in the near future. Specific schedules and locations of meetings are attached. The purpose of these meetings is to provide the public with an opportunity to express its views on environmental impacts resulting from construction and operation of the proposed gas transportation facilities.

Since the meetings are solely to seek environmental information rather than to debate the merits of either proposal, the presiding officer will not permit cross questioning at the meeting. For this reason, written statements are encouraged. Information obtained on the impact of construction and operation of the proposed gas transportation facilities will be considered in the preparation of the Draft Environmental Impact Statement.

If comments cannot be presented in person at any of the public meetings, written statements may be sent to: Alaskan Gas EIS Task Force, Bureau of Land Management (302) Room 1539, U.S. Department of the Interior, Washington, D.C. 20240. Comments, to be most useful, should be received by January 15, 1975.

Formal applications for the proposed gas transportation facilities are available for public inspection at the Department of the Interior, Washington, D.C., the Federal Power Commission, Washington, D.C., or the Bureau of Land Management Eastern States Office, Silver Spring, Maryland. The applications are also on file at the Bureau of Land Management state office in those states where gas transportation facilities have been proposed.

Two proposals are presently before the Federal Government. One, the Arctic Gas System, is for a pipeline to run from Prudhoe Bay to the Canadian/Alaska Border and then southward through Canada to points of entry in Idaho and Montana. From here, pipelines would fan out to eastern markets and terminate in Pennsylvania; and to west coast markets terminating in Los Angeles. This system provides for a 48-inch diameter pipe for 195 miles in Alaska and 1,743 miles in Canada. At Caroline, Alberta the line forks to serve markets in Canada and the U.S. with a 42-inch diameter pipeline that is 677 miles long. Pipe in diameter of 42 inches and 36 inches would be laid for 3,607 miles in the United States.

The other proposal is the El Paso Alaska project. It includes an 809 mile, 42-inch diameter pipeline, most of which is to be located in the "utility corridor" set aside for the Alaskan oil pipeline. At its terminus at Point Gravina on Prince William Sound in Alaska, the gas would be liquefied. Liquefied natural gas would be transported by eleven cryogenic tankers to receiving and regasification facilities at Point Conception (Los Angeles area), California. The gas would then be delivered by pipeline systems to the U.S. markets.

2 Enclosures
    Encl. 1 - Brochure
    Encl. 2 - Schedule of Meetings

Attachment X

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

ALASKAN NATURAL GAS TRANSPORTATION SYSTEMS

Meeting

Notice is hereby given that public meetings will be held to obtain suggestions and comments on impacts of proposed systems for transporting natural gas from Alaska North Slope to the lower United States. Information on impacts will be considered in preparing the environmental impact statement.

These meetings will be conducted by the Joint Interagency Task Force which is responsible for preparing that statement and which is composed of the Department of the Interior and the staff of the Federal Power Commission.

Background. The transportation of natural gas resources from the Arctic regions of northeast Alaska to markets in the lower United States is an issue of increasing national importance. In this regard, applications for natural gas pipeline right-of-way permits across Federal lands and certificates of public convenience and necessity authorizing the construction of natural gas transmission facilities have been received by the Department of the Interior and the Federal Power Commission in connection with proposed systems to deliver gas from northeast Alaska to the lower United States.

The Alaskan Arctic Gas Pipeline Company requested Federal permits and certificates to construct a pipeline for transportation of natural gas from the Prudhoe Bay area of Alaska. The proposed pipeline would cross northeast Alaska through the Arctic National Wildlife Range before crossing the international border and going south through Canada. Additional certificate applications have been filed with the Federal Power Commission by Interstate Transmission Associates and Northern Border Pipeline Company requesting Commission approval of related natural gas transmission systems which may be required to distribute the Alaskan Arctic gas throughout the United States. In this regard, additional permit applications are expected to be filed with the Department of the Interior.

The proposed system will consist of a main trunk line of 48-inch diameter located generally from Prudhoe Bay, approximately 2,600 miles to Caroline, Alberta. The main trunk will fork in the vicinity of Caroline, with 42-inch fork lines going to the area of Kingsgate, British Columbia (to the west), and Monchy, Saskatchewan (to the east). From these points, pipelines are expected to be generally located as follows:

1. From Kingsgate through Idaho, Washington, Oregon, and California to San Francisco;
2. From Kingsgate through Idaho, Washington, Oregon, Nevada and California to Los Angeles; and
3. From northern Montana through North Dakota, South Dakota, Minnesota, Iowa, Illinois, Indiana, Ohio, West Virginia to Pennsylvania.

El Paso Natural Gas Company has filed for certificates of public convenience and necessity to construct a natural gas pipeline system from Prudhoe Bay across Alaska on a north-south route ultimately delivering gas to the lower United States by cryogenic oceangoing tankers. The system is a 42-inch diameter line that would run generally from Prudhoe Bay southward following the Alyeska oil pipeline corridor, but with a port location near Point Gravina rather than at Valdez. At the terminus, the gas is to be liquified and transported by cryogenic tankers to the west coast of the lower United States.

In response to these applications, the Federal Power Commission has responsibility for the evaluation and jurisdiction for the certification of the proposed transportation systems. The FPC staff, with the assistance of the Department of the Interior and others, is required to conduct a detailed independent analysis and prepare a detailed environmental statement. Because any pipeline involved will cross the public lands and other areas of Department of the Interior jurisdiction, and because permits or concurrences will be required for such crossings, Interior is directly involved in the proposed action and required to prepare a detailed environmental impact statement. In view of these considerations, it was agreed (May 1974) that FPC and Interior will assume joint responsibility for preparation of an environmental impact statement in order to most effectively and expeditiously assess the impacts.

Meetings. With exception of the Anchorage, Alaska meeting, which begins at 9:30 a.m., meetings will be conducted at 10–11:30 a.m., 1:30–4:30 p.m., and 7:30–9:00 p.m., local time in the following locations:

Anchorage, Alaska, January 10.
Fairbanks, Alaska, January 8.
Juneau, Alaska, January 6.
Portland, Oregon, January 9.
Sacramento, California, January 7.
Billings, Montana, January 7.
Chicago, Illinois, January 9.
Washington, D.C., January 7.

The meetings will be open to the public with any individual invited to present a statement directed at environmental impacts. All statements received will be considered in the analysis of the environmental impacts but written comments are encouraged. Since the meetings are "information seeking" rather than "debate of merits of the proposals," the presiding officer will not permit cross questioning at the meeting.

Formal applications for the proposed gas transportation facilities are available for public inspection at the Department of the Interior, Washington, D.C.; the Federal Power Commission, Washington, D.C.; Office of the Special Assistant to the Secretary of the Interior, Chicago, Illinois; or the Bureau of Land Management Eastern States Office, Silver Spring, Maryland. The applications are also on file at the Bureau of Land Management State Office in each of those states in which gas transportation facilities have been proposed and at the Alaskan Gas Transportation System—EIS Task Force Offices which are listed below:

Alaska Team Leader
Alaskan Gas Transportation System—EIS Task Force
U.S. Department of the Interior
Bureau of Land Management
555 Cordova Street
Anchorage, Alaska 99501
Phone: 206/442–0150
Ask for: 907/277–1561

Canadian Team Leader
Alaskan Gas Transportation System—EIS Task Force
United States Geological Survey
National Center, Mail Stop 106
Reston, Virginia 22092
Phone: 703/860–7491

West Coast Team Leader
Alaskan Gas Transportation System—EIS Task Force
U.S. Department of the Interior
Bureau of Land Management
710 NE. Holladay Street
Room 208
Portland, Oregon 97208
Phone: 503/234–4104

Northern Border Team Leader
Alaskan Gas Transportation System—EIS Task Force
U.S. Department of the Interior
Bureau of Land Management
715 Kipling Street
Lakewood, Colorado 80215
Phone: 303/234–4888

Project Manager—BLM (302)
Alaskan Gas Transportation System—EIS Task Force
U.S. Department of the Interior
Bureau of Land Management
18th & C Streets, NW., Room 1540
Washington, D.C. 20240
Phone: 202/343–4917

CURT BERKLUND,
Director.

[FR Doc.74–28850 Filed 12–10–74;8:45 am]

Federal Register
Vol. 39, No. 239
Wednesday, Dec. 11, 1974

Attachment XI

The state and local agencies and individuals listed below were contacted by the West Coast team:

Idaho

Idaho Fish and Game Department
Donald Johnson, University of Idaho, Moscow, Idaho (Individual)
Desert Bighorn Council
Bonners Ferry, County Historical Society
State Historical Preservation Officer

Oregon

Highway Department, Division of State Parks
State Historical Preservation Officer
Oregon Wildlife Commission
Phil Lehenbauer, Staff Specialist, Enhancement, Portland (Individual)
Hermiston Historical Society

Washington

Washington Department of Fish and Game
State Historical Preservation Officer
Spokane Historical Society
Walla Walla Historical Society

California

California Department of Fish and Game
State Historical Preservation Officer
California State College, Sonoma
San Bernardino Historical Society
China Lake Historical Society
Bridgeport Historical Society
Bishop Historical Society
Independence Historical Society
Bakersfield Historical Society
Colusa Historical Society
Redding Historical Society
Red Bluff Historical Society
Willows Historical Society
Woodland Historical Society
Suism City Historical Society
Valejo Historical Society

Nevada

Nevada Fish and Game
State Historical Preservation Officer

Utah

Utah Department of Wildlife Resources

Attachment XII

Listed below are various state and local agencies and individuals contacted by the Northern Border team during the preparation of the environmental impact statement

Minnesota

Cottonwood County Zoning Inspector, Windom, Minnesota
Jackson County Engineer, Jackson, Minnesota
Lyon County Zoning Administrator, Marshall, Minnesota
Martin County Engineer, Fairmont, Minnesota
Murray County Zoning Administrator, Slayton, Minnesota
Cottonwood County Highway Engineer, Windom, Minnesota
Lincoln County Highway Dept. Engineer, Ivanhoe, Minnesota
Supt., Dept. of Natural Resources, Minneapolis, Minnesota
Water Resources Management, Minneapolis, Minnesota
Minnesota Environmental Quality Council, Minneapolis, Minn.
Minnesota Energy Agency, Minneapolis, Minnesota
Minnesota Pollution Control Agency, Minneapolis, Minnesota
Minnesota Dept. of Natural Resources, Minneapolis,Minn.

Iowa

Winnebago County Engineer, Forest City, Iowa
Franklin County, Hampton, Iowa
Benton County Engineer, Vinton, Iowa
Asst. to the Engineer, Butler County, Allison, Iowa
Scott County Engineer, Davenport, Iowa
Buchanan County Engineer, Independence, Iowa
Office Manager, Cedar County Engineer, Tipton, Iowa
Linn County Engineer, Cedar Rapids, Iowa
Cerro Gordo County Engineer, Mason City, Iowa
Jones County, Anamosa, Iowa
Clinton County, Clinton, Iowa
Bremer County Engineer, Waverly, Iowa
Iowa Dept. of Environmental Quality, Des Moines, Iowa
Iowa Conservation Commission, Des Moines, Iowa
Water Resources Engineer, Natural Resources Council, Des Moines, I
Iowa State Highway Commission, Ames, Iowa
Iowa State Commerce Commission, Des Moines, Iowa

Illinois

Supt. of Highways, Whiteside County, Morrison, Illinois
Iroquois County, Watseka, Illinois
Supt. of Highways, Rock Island County, Milan, Illinois
Illinois Dept. of Transportation, Springfield, Illinois
Illinois Dept. of Public Works & Buildings, Springfield, Ill.
Illinois Environmental Agency, Springfield, Illinois

Indiana

Dir. Adams County Planning & Zoning, Decatur, Indiana
Newton County, Kentland, Indiana
Huntington County Highway Dept., Huntington, Indiana
White County, Monticello, Indiana
Wabash County Highway Engineer, Wabash, Indiana
Indiana Dept. of Natural Resources, Indianapolis, Indiana
Indiana State Highway Engineer, Indianapolis, Indiana
Council, Indianapolis, Indiana
Indiana State Board of Health, Air Pollution Control Division,
    Indianapolis, Indiana

Ohio

Harrison County, Ohio
Hardin County Engineer, Kenton, Ohio
Jefferson County Engineer, Steubenville, Ohio
Auglaize County Engineer, Wapakoneta, Ohio
Marion County Engineer, Marion, Ohio
Ohio Environmental Protection Agency, Columbus, Ohio
Ohio Dept. of Natural Resources, Columbus, Ohio
Ohio Power Siteing Commission, Columbus, Ohio

Pennsylvania

Westmoreland County Dept of Planning, Greensburg, Penn.
Pennsylvania Dept. of Environmental Resources, Harrisburg, Penn.
Pennsylvania Game Commission, Harrisburg, Penn.
Pennsylvania Dept. of Labor, Harrisburg, Penn.

West Virginia

West Virginia Dept. of Highways, Charleston, W. Virginia
West Virginia Dept. of Natural Resources, Charleston, W. Va.
West Virginia Air Pollution Control Commission, Charleston, W. Va.

Attachment XIII

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

AUG 13 1975

Mr. John D. McDermott
Director, Office of Review and Compliance
Advisory Council on Historic Preservation
1522 K Street, N.W., Suite 430
Washington, D.C. 20005

Dear Mr. McDermott:

This is in response to your letter to Douglas Wheeler dated March 19, 1975, concerning our letter of February 23 explaining that the Department of the Interior is considering the Arctic Gas Pipeline System proposal to transport natural gas from Prudhoe Bay (Alaska) to the lower 48 states. We also enclose the draft EIS for this proposal. As we have indicated, pipelines would be constructed to transport the natural gas from Prudhoe Bay eastward to Canada, south through Canada to the United States-Canadian border, with one line to terminate in Pennsylvania and two additional lines to terminate in Los Angeles and San Francisco. In your response you point out that the Advisory Council would be unable to comment substantively on the environmental statement unless it contains certain documentation dealing with several different areas.

Should this proposal be approved, the Department of the Interior would adopt a course of action in which it would meet its responsibilities to identify presently unlocated cultural resources both on federal and non-federal lands within the jurisdiction of the United States; to make an evaluation of the effect of the permitted undertaking on these as yet unlocated resources; to avoid to the greatest extent possible situations where there will be an adverse effect; and, to deal with our mitigation responsibilities on such properties where there may be an adverse effect. These steps will be accomplished primarily through the development of a comprehensive set of guidelines to be employed at the construction stage under the supervision or administration of this Department. That is, we propose to build into our permit a planning step to insure the location, evaluation, and mitigation of such presently unlocated resources. Accordingly, we are asking the Advisory Council to not only evaluate the substantive elements of the draft environmental impact statement enclosed herewith, as is required by NEPA and the CEQ Guidelines, but also to provide us with comments as required by section 106 of the National Historic Preservation Act and section 2(b) and 1(3) of the Executive Order 11593, with regard to this programmatic approach in accord with your procedures in this regard, 36 C.F.R. Part 800.

This approach is most appropriate to handle a most difficult problem. The Advisory Council should understand that this project, if permitted, would include pipeline system facilities that would encompass corridors extending at least 3,600 miles throughout the United States. In our judgment the most sensible way to inventory this extensive right-of-way system over both federal and non-federal lands for yet unlocated cultural resources is to do so at the pre-construction stage with sufficient flexibility built in to avoid many problems that may arise at that time.

We believe that this is an imaginative and aggressive approach to a most difficult problem. We shall seek the comments of the Advisory Council pursuant to your statutory and Executive Order 11593 responsibilities in this regard, and we also wish to consult with you in regard to this aspect of this program at the development stage.

At this point let me go through your letter point by point and explain how our draft environmental impact statement and programmatic approach will react to the various points that you have raised. First, at Point I, you request assurance that the Department of the Interior has consulted with the most recent listing of the National Register of Historic Places and that one of two conditions are satisfied. This has been done and is provided in the draft environmental impact statement for your comments both under NEPA and under your statutory responsibility pursuant to section 106 of the National Historic Preservation Act.

Under Point IIA, you ask that the result of the Executive Order 2(a) survey be included in the environmental statement as evidence of compliance with this portion of the Executive Order. As indicated above, the Department of the Interior does not propose to do a prior independent survey of this corridor for the draft environmental impact statement. We propose to accomplish this survey pursuant to procedures that we are developing for this purpose in coordination with the Departmental Consulting Archeologist, NPS. With regard to this survey, we also propose to incorporate within the final environmental impact statement the requisite evaluation criteria and continuing participation by both this Department and the Advisory Council in the event that this survey discloses as yet unlocated sites that should be nominated to the National Register and that would be affected in accord with your procedures. This approach will encompass the considerations that you raise at Point IIB.

You next point out at Point IIC that this Department has a section 1(3) responsibility under Executive Order 11593 that should be discussed in the environmental impact statement. This will be done; this responsibility will be met through the adoption of guidelines, set out in the environmental impact statement, that will detail how as yet unlocated cultural resources on non-federal lands that are within the area affected by this permit will be identified and what steps will be taken when such cultural resources are identified.

Thus, the final environmental statement will contain procedures as to how the proposed undertaking will concern the preservation and enhancement of non-federally owned districts, sites, buildings, structures, and objects of historic, architectural, or archeological significance. These procedures will be in addition to and will amplify the procedures of the Advisory Council with regard to the identification of such non-federal properties, as developed in 36 C.F.R. Part 800.

In summary, we believe that the approach taken in the Arctic Gas pipeline program will be a successful blending of private initiative and federal planning and that all appropriate steps will be taken to protect and identify as yet unlocated, as well as presently located, and listed, nominated, or eligible, cultural resources. We want you to be aware of the approach that we are developing and that we propose to take in the final environmental impact statement so that there will be no misunderstanding that we will be asking not only for your substantive comments on the environmental impact statement but also for your statutory and Executive Order comments both with regard to presently located and protected cultural properties under section 106 of the National Historic Preservation Act and section 2(b) of Executive Order 11593, and with regard to the programmatic approach taken to comply with the inventory and/or identification requirements concerning as yet unlocated cultural resources on both federal and non-federal land. We cannot stress the importance of a timely and a responsive effort to resolve this most important problem, and we seek the consultation of the staff of the Advisory Council on these various issues as quickly as possible.

Curtis Bohlen

Acting Assistant Secretary of the Interior

Enclosure

Attachment XIV

Advisory Council
On Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

September 9, 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D. C. 20240

Dear Mr. Koenings:

This is in response to your request of July 25, 1975, for comments on the draft environmental statement for the Alaska Natural Gas Transportation System. The Advisory Council has reviewed the statement and notes that the undertaking will affect numerous properties listed in the National Register of Historic Places or which may be eligible for inclusion in the National Register of Historic Places.

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (80 Stat. 915, 16 U.S.C. 470) and Executive Order 11593, "Protection and Enhancement of the Cultural Environment" of May 13, 1971, as implemented by the Advisory Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800), Federal agencies must, prior to the approval of the expenditure of any Federal funds on an undertaking or prior to the granting of any license, permit, or other approval for an undertaking, afford the Advisory Council an opportunity to comment on the effect of the undertaking upon properties listed on or eligible for inclusion in the National Register. For your convenience, a copy of the Council's Procedures is enclosed.

Until the requirements of Section 106 and Executive Order 11593 are met, the Council considers the draft environmental statement to be incomplete in its treatment of historical, archeological, architectural and cultural resources. To remedy this deficiency, the Council will provide substantive comments on the undertaking's effect on cultural resources through the steps detailed in the Procedures. Please contact John D. McDermott, Director, Office of Review and Compliance at (202) 254-3380, to assist you in completing this process as expeditiously as possible.

Sincerely yours,

Louis S. Wall
Assistant Director, Office
of Review and Compliance

Enclosure

federal register

FRIDAY, JANUARY 25, 1974
WASHINGTON, D.C.

Volume 39 ■ Number 18

PART II

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

ADVISORY COUNCIL ON HISTORIC PRESERVATION

■

PROCEDURES FOR THE PROTECTION OF HISTORIC AND CULTURAL PROPERTIES

Establishment of New Chapter and Part

Title 36—Parks, Forests, and Public Property

CHAPTER VIII—ADVISORY COUNCIL ON HISTORIC PRESERVATION

PART 800—PROCEDURES FOR THE PROTECTION OF HISTORIC AND CULTURAL PROPERTIES

Pursuant to the National Historic Preservation Act of 1966 (80 Stat. 915, 16 U.S.C. 470) and Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment" (36 FR 8921, 16 U.S.C. 470), the Advisory Council on Historic Preservation has established Procedures for Compliance, set forth in the FEDERAL REGISTER of February 28, 1973 (38 FR 5388), to implement the purposes of those authorities. Proposed revisions to those procedures were published in the FEDERAL REGISTER of November 5, 1973 (38 FR 30464) and 30 days were allowed for public comment. Federal agencies were also solicited to consult with the Advisory Council with regard to the development of procedures for the protection of non-federally owned historic and cultural properties as required by section 1(3) of Executive Order 11593.

In response to comments received by the Advisory Council and in consultation with Federal agencies, the proposed procedures have been revised to incorporate suggestions from Federal and State agencies and private citizens. It is the purpose of this notice, through publication of revised "Procedures for the Protection of Historic and Cultural Properties," to apprise the public as well as government agencies, associations, and all other organizations and individuals interested in historic preservation, that the following procedures are hereby adopted as set forth below. The procedures will appear in the Code of Federal Regulations in Title 36, Chapter 8 at Part 800. The procedures are being codified because they affect State and local governmental agencies, private organizations, and individuals, in addition to Federal agencies, to which they are specifically directed, and because of the resultant need to make them widely and readily available.

Federal agencies are advised that the procedures set forth certain steps for agencies to follow to fulfill their obligations pursuant to section 1(3) of Executive Order 11593 and to use as a guide in the development of their required internal procedures in consultation with the Council. The Advisory Council reiterates its solicitation of Federal agencies to consult with the Council on the development of those procedures. Inquiries regarding such consultation, as well as inquiries regarding the substance of and compliance with the procedures in general, should be directed to the Executive Secretary, Advisory Council on Historic Preservation, Suite 430, 1522 K Street NW., Washington, D.C. 20005.

Effective date: January 25, 1974.

ROBERT R. GARVEY, Jr.,
Executive Director, Advisory Council on Historic Preservation.

A new Chapter VIII, Advisory Council on Historic Preservation, containing Part 800, Procedures for the Protection of Historic and Cultural Properties, is added to title 36, CFR, reading as set forth below.

Sec.

800.1 Purpose and authorities.
800.2 Coordination with agency requirements under the National Environmental Policy Act.
800.3 Definitions.
800.4 Agency procedures.
800.5 Consultation process.
800.6 Council procedures.
800.7 Other powers of the Council.
800.8 Criteria of effect.
800.9 Criteria of adverse effect.
800.10 National Register criteria.

AUTHORITY: Pub. L. 89-665, 80 Stat. 915, (16 U.S.C. 470); E.O. 11593, 3 CFR 1971 Comp., p. 154.

§ 800.1 Purpose and authorities.

(a) The National Historic Preservation Act of 1966 created the Advisory Council on Historic Preservation, an independent agency of the Executive branch of the Federal Government, to advise the President and Congress on matters involving historic preservation. Its members are the Secretary of the Interior, the Secretary of Housing and Urban Development, the Secretary of the Treasury, the Secretary of Commerce, the Attorney General, the Secretary of Transportation, the Secretary of Agriculture, the Administrator of the General Services Administration, the Secretary of the Smithsonian Institution, the Chairman of the National Trust for Historic Preservation, and 10 citizen members appointed by the President on the basis of their outstanding service in the field of historic preservation.

(b) The Council reviews Federal, federally assisted, and federally licensed undertakings affecting cultural properties as defined herein in accordance with the following authorities:

(1) *Section 106 of the National Historic Preservation Act.* Section 106 requires that Federal, federally assisted, and federally licensed undertakings affecting properties included in the National Register of Historic Places be submitted to the Council for review and comment prior to the approval of any such undertaking by the Federal agency.

(2) *Section 1(3) of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment."* Section 1(3) requires that Federal agencies, in consultation with the Council, establish procedures regarding the preservation and enhancement of non-federally owned historic and cultural properties in the execution of their plans and programs. After soliciting consultation with the Federal agencies, the Advisory Council has adopted procedures, set forth in §§ 800.3 through 800.10, to achieve this objective and Federal agencies should fulfill their responsibilities under section 1(3) by following these procedures. The Council further recommends that Federal agencies use these procedures as a guide in the development, in consultation with the Council, of their required internal procedures.

(3) *Section 2(b) of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment."* Federal agencies are required, by section 2(a) of the Executive Order, to locate, inventory, and nominate properties under their jurisdiction or control to the National Register. Until such processes are complete, Federal agencies must submit proposals for the transfer, sale, demolition, or substantial alteration of federally owned properties eligible for inclusion in the National Register to the Council for review and comment. Federal agencies must continue to comply with section 2(b) review requirements, even after the initial inventory is complete, when they obtain jurisdiction or control over additional properties that are eligible for inclusion in the National Register or when properties under their jurisdiction or control are found to be eligible for inclusion in the National Register subsequent to the initial inventory.

§ 800.2 Coordination with agency requirements under the National Environmental Policy Act.

Section 101(b)(4) of the National Environment Policy Act (NEPA) declares that one objective of the national environmental policy is to "preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment which supports diversity and variety of individual choice." In order to meet this objective, the Advisory Council instructs Federal agencies to coordinate NEPA compliance with the separate responsibilities of the National Historic Preservation Act and Executive Order 11593 to ensure that historic and cultural resources are given proper consideration in the preparation of environmental impact statements. Agency obligations pursuant to the National Historic Preservation Act and Executive Order 11593 are independent from NEPA and must be complied with even when an environmental impact statement is not required. However, where both NEPA and the National Historic Preservation Act or Executive Order 11593 are applicable, the Council on Environmental Quality, in its *Guidelines for the Preparation of Environmental Impact Statements* (40 CFR Part 1500), directs that compliance with section 102(2)(C) of NEPA should, to the extent possible, be combined with other statutory obligations—such as the National Historic Preservation Act and Executive Order 11593—to yield a single document which meets all applicable requirements. To achieve this objective, Federal agencies should undertake, to the fullest extent possible, compliance with the procedures set forth below whenever properties included in or eligible for inclusion in the National Register are involved in a project to ensure that obligations under the National Historic Preservation Act and Executive Order 11593 are fulfilled during the preparation of a draft environmental impact statement required under section 102(2)(C) of NEPA. The Advisory Council recommends that compliance with these procedures be undertaken at the earliest stages of the environmental impact statement process to expedite review of the statement. Statements on projects affecting properties included in or eligible for inclusion in the National Register should be sent directly to the Advisory Council for review. All statements involving historic, architectural, archeological, or cultural resources, whether or not included in or eligible for inclusion in the National Register, should be submitted to the Department of Interior for review.

§ 800.3 Definitions.

As used in these procedures:

(a) "National Historic Preservation Act" means Public Law 89–665, approved October 15, 1966, an "Act to establish a program for the preservation of additional historic properties throughout the Nation and for other purposes," 80 Stat. 915, 16 U.S.C. 470, as amended, 84 Stat. 204 (1970) and 87 Stat. 139 (1973) hereinafter referred to as "the Act."

(b) "Executive Order" means Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment," 36 FR 8921, 16 U.S.C. 470.

(c) "Undertaking" means any Federal action, activity, or program, or the approval, sanction, assistance, or support of any other action, activity or program, including but not limited to:

(1) Recommendations or favorable reports relating to legislation, including requests for appropriations. The requirement for following these procedures applies to both: Agency recommendations on their own proposals for legislation and agency reports on legislation initiated elsewhere. In the latter case only the agency which has primary responsibility for the subject matter involved will comply with these procedures.

(2) New and continuing projects and program activities: directly undertaken by Federal agencies; or supported in whole or in part through Federal contracts, grants, subsidies, loans, or other forms of funding assistance; or involving a Federal lease, permit, license, certificate, or other entitlement for use.

(3) The making, modification, or establishment of regulations, rules, procedures, and policy.

(d) "National Register" means the National Register of Historic Places, which is a register of districts, sites, buildings, structures, and objects, significant in American history, architecture, archeology, and culture, maintained by the Secretary of the Interior under authority of section 2(b) of the Historic Sites Act of 1935 (49 Stat. 666, 16 U.S.C. 461) and section 101(a)(1) of the National Historic Preservation Act. The National Register is published in its entirety in the Federal Register each year in February. Addenda are published on the first Tuesday of each month.

(e) "National Register property" means a district, site building, structure, or object included in the National Register.

(f) "Property eligible for inclusion in the National Register" means any district, site, building, structure, or object which the Secretary of the Interior determines is likely to meet the National Register Criteria. As these determinations are made, a listing is published in the Federal Register on the first Tuesday of each month, as a supplement to the National Register.

(g) "Decision" means the exercise of agency authority at any stage of an undertaking where alterations might be made in the undertaking to modify its impact upon historic and cultural properties.

(h) "Agency Official" means the head of the Federal agency having responsibility for the undertaking or a subordinate employee of the Federal agency to whom such authority has been delegated.

(i) "Chairman" means the Chairman of the Advisory Council on Historic Preservation, or such member designated to act in his stead.

(j) "Executive Director" means the Executive Director of the Advisory Council on Historic Preservation established by Section 205 of the Act, or his designated representative.

(k) "State Historic Preservation Officer" means the official within each State, authorized by the State at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the Act, or his designated representative.

(l) "Secretary" means the Secretary of the Interior, or his designee authorized to carry out the responsibilities of the Secretary of the Interior under Executive Order 11593.

§ 800.4 Agency procedures.

At the earliest stage of planning or consideration of a proposed undertaking, including comprehensive or area-wide planning in which provision may be made for an undertaking or an undertaking may be proposed, the Agency Official shall take the following steps to comply with the requirements of section 106 of the National Historic Preservation Act and sections 1(3) and 2(b) of Executive Order 11593.

(a) *Identification of resources.* As early as possible and in all cases prior to agency decision concerning an undertaking, the Agency Official shall identify properties located within the area of the undertaking's potential environmental impact that are included in or eligible for inclusion in the National Register.

(1) To identify properties included in the National Register, the Agency Official shall consult the National Register, including monthly supplements.

(2) To identify properties eligible for inclusion in the National Register, the Agency Official shall, in consultation with the appropriate State Historic Preservation Officer, apply the National Register Criteria, set forth in Section 800.10, to all properties possessing historical, architectural, archeological, or cultural value located within the area of the undertaking's potential environmental impact. If the Agency Official determines that a property appears to meet the Criteria, or if it is questionable whether the Criteria are met, the Agency Official shall request, in writing, an opinion from the Secretary of the Interior respecting the property's eligibility for inclusion in the National Register. The Secretary of the Interior's opinion respecting the eligibility of a property for inclusion in the National Register shall be conclusive for the purposes of these procedures.

(b) *Determination of effect.* For each property included in or eligible for inclusion in the National Register that is located within the area of the undertaking's potential environmental impact, the Agency Official, in consultation with the State Historic Preservation Officer, shall apply the Criteria of Effect, set forth in Section 800.8, to determine whether the undertaking has an effect upon the property. Upon applying the Criteria and finding no effect, the undertaking may proceed. The Agency Official shall keep adequate documentation of a determination of no effect.

(c) *Effect established.* Upon finding that the undertaking will have any effect upon a property included in or eligible for inclusion in the National Register, the Agency Official, in consultation with the State Historic Preservation Officer, shall apply the Criteria of Adverse Effect, set forth in §800.9, to determine whether the effect of the undertaking is adverse.

(d) *Finding of no adverse effect.* Upon finding the effect not to be adverse, the Agency Official shall forward adequate documentation of the determination, including evidence of the views of the State Historic Preservation Officer, to the Executive Director for review. Unless the Executive Director notes an objection to the determination within 45 days after receipt of adequate documentation, the Agency Official may proceed with the undertaking.

(e) *Finding of adverse effect.* Upon finding the effect to be adverse or upon notification that the Executive Director does not accept a determination of no adverse effect, the Agency Official shall (1) Request, in writing, the comments of the Advisory Council; (2) notify the State Historic Preservation Officer of this request; (3) prepare a preliminary case report; and (4) proceed with the consultation process set forth in Section 800.5.

(f) *Preliminary case report.* Upon requesting the comments of the Advisory Council, the Agency Official shall provide the Executive Director and the State Historic Preservation Officer with a preliminary case report, containing all relevant information concerning the undertaking. The Agency Official shall obtain such information and material from any applicant, grantee, or other beneficiary involved in the undertaking as may be required for the proper evaluation of the undertaking, its effects, and alternate courses of action.

§ 800.5 Consultation process.

(a) *Response to request for comments.* Upon receipt of a request for Advisory Council comments pursuant to Section 800.4(e), the Executive Director shall acknowledge the request and shall initiate the consultation process.

(b) *On-site inspection.* At the request of the Agency Official, the State Historic Preservation Officer, or the Executive Director, the Agency Official shall conduct an on-site inspection with the Executive Director, the State Historic Preservation Officer and such other representatives of national, State, or local units of government and public and private organizations that the consulting parties deem appropriate.

(c) *Public information meeting.* At the request of the Agency Official, the State Historic Preservation Officer, or the Executive Director, the Executive Director shall conduct a meeting open to the public, where representatives of national, State, or local units of government, representatives of public or private organizations, and interested citizens can receive information and express their views on the undertaking, its effects on historic and cultural properties, and alternate courses of action. The Agency Official shall provide adequate facilities for the meeting and shall afford appropriate notice to the public in advance of the meeting.

(d) *Consideration of alternatives.* Upon review of the pending case and subsequent to any on-site inspection and any public information meeting, the Executive Director shall consult with the Agency Official and State Historic Preservation Officer to determine whether there is a feasible and prudent alternative to avoid or satisfactorily mitigate any adverse effect.

(e) *Avoidance of adverse effect.* If the Agency Official, the State Historic Preservation Officer, and the Executive Director select and unanimously agree upon a feasible and prudent alternative to avoid the adverse effect of the undertaking, they shall execute a Memorandum of Agreement acknowledging avoidance of adverse effect. This document shall be forwarded to the Chairman for review pursuant to Section 800.6(a).

(f) *Mitigation of adverse effect.* If the consulting parties are unable to unanimously agree upon a feasible and prudent alternative to avoid any adverse effect, the Executive Director shall consult with the Agency Official and the State Historic Preservation Officer to determine whether there is a feasible and prudent alternative to satisfactorily mitigate the adverse effect of the undertaking. Upon finding and unanimously agreeing to such an alternative, they shall execute a Memorandum of Agreement acknowledging satisfactory mitigation of adverse effect. This document shall be forwarded to the Chairman for review pursuant to Section 800.6(a).

(g) *Memorandum of Agreement.* It shall be the responsibility of the Executive Director to prepare each Memorandum of Agreement required under these procedures. In preparation of such a document the Executive Director may request the Agency Official to prepare a proposal for inclusion in the Memorandum, detailing actions to be taken to avoid or mitigate the adverse effect.

(h) *Failure to avoid or mitigate adverse effect.* Upon the failure of consulting parties to find and unanimously agree upon a feasible and prudent alternative to avoid or satisfactorily mitigate the adverse effect, the Executive Director shall request the Chairman to schedule the undertaking for consideration at the next Council meeting and notify the Agency Official of the request. Upon notification of the request, the Agency Official shall delay further processing of the undertaking until the Council has transmitted its comments or the Chairman has given notice that the undertaking will not be considered at a Council meeting.

§ 800.6 Council procedures.

(a) *Review of Memorandum of Agreement.* Upon receipt of a Memorandum of Agreement acknowledging avoidance of adverse effect or satisfactory mitigation of adverse effect, the Chairman shall institute a 30-day review period. Unless the Chairman shall notify the Agency Official that the matter has been placed on the agenda for consideration at a Council meeting, the memorandum shall become final: (1) Upon the expiration of the 30-day review period with no action taken; or (2) when signed by the Chairman. Memoranda duly executed in accordance with these procedures shall constitute the comments of the Advisory Council. Notice of executed Memoranda of Agreement shall be published in the FEDERAL REGISTER monthly.

(b) *Response to request for consideration at Council meeting.* Upon receipt of a request from the Executive Director for consideration of the proposed undertaking at a Council meeting, the Chairman shall determine whether or not the undertaking will be considered and notify the Agency Official of his decision. To assist the Chairman in this determination, the Agency Official and the State Historic Preservation Officer shall provide such reports and information as may be required. If the Chairman decides against consideration at a Council meeting, he will submit a written summary of the undertaking and his decision to each member of the Council. If any member of the Council notes an objection to the decision within 15 days of the Chairman's decision, the undertaking will be scheduled for consideration at a Council meeting. If the Council members have no objection, the Chairman shall notify the Agency Official at the end of the 15-day period that the undertaking may proceed.

(c) *Decision to consider the undertaking.* Upon determination that the Council will consider an undertaking, the Chairman shall: (1) Schedule the matter for consideration at a regular meeting no less than 60 days from the date the request was received, or in exceptional cases, schedule the matter for consideration in an unassembled or special meeting; (2) notify the Agency Official and the State Historic Preservation Officer of the date on which comments will be considered; and (3) authorize the Executive Director to prepare a case report

(d) *Content of the case report.* For purposes of arriving at comments, the Advisory Council prescribes that certain reports be made available to it and accepts reports and statements from other interested parties. Specific informational requirements are enumerated below. Generally, the requirements represent an explication of elaboration of principles contained in the Criteria of Effect and in the Criteria of Adverse Effect. The Council notes, however, that the Act recognizes historical and cultural resources should be preserved "as a living part of our community life and development." Consequently, in arriving at final comments, the Council considers those elements in an undertaking that have relevance beyond historical and cultural concerns. To assist it in weighing the public interest, the Council welcomes information not only bearing upon physical, sensory, or esthetic effects but also information concerning economic, social, and other benefits or detriments that will result from the undertaking.

(e) *Elements of the case report.* The report on which the Council relies for comment shall consist of:

(1) A report from the Executive Director to include a verification of the legal and historical status of the property; an assessment of the historical, architectural, archeological, or cultural significance of the property; a statement indicating the special value of features to be most affected by the undertaking; an evaluation of the total effect of the undertaking upon the property; a critical review of any known feasible and prudent alternatives and recommendations to remove or mitigate the adverse effect;

(2) A report from the Agency Official requesting comment to include a general discussion and chronology of the proposed undertaking; when appropriate, an account of the steps taken to comply with section 102(2)(A) of the National Environmental Policy Act of 1969 (83 Stat. 852, 42 U.S.C. 4321): an evaluation of the effect of the undertaking upon the property, with particular reference to the impact on the historic, architectural, archeological and cultural values; steps taken or proposed by the agency to take into account, avoid, or mitigate adverse effects of the undertaking; a thorough discussion of alternate courses of action; and, if applicable and available, a copy of the draft environmental statement prepared in compliance with section 102 (2)(C) of the National Environmental Policy Act of 1969;

(3) A report from any other Federal agency having under consideration an undertaking that will concurrently or ultimately affect the property, including a general description and chronology of that undertaking and discussion of the relation between that undertaking and the undertaking being considered by the Council;

(4) A report from the State Historic Preservation Officer to include an assessment of the significance of the property; an identification of features of special value; an evaluation of the effect of the undertaking upon the property and its specific components; an evaluation of

known alternate courses of action; a discussion of present or proposed participation of State and local agencies or organizations in preserving or assisting in preserving the property; an indication of the support or opposition of units of government and public and private agencies and organizations within the State; and the recommendations of his office;

(5) A report by any applicant or potential recipient when the Council considers comments upon an application for a contract, grant, subsidy, loan, or other form of funding assistance, or an application for a Federal lease, permit, license, certificate, or other entitlement for use. Arrangements for the submission and presentation of reports by applicants or potential recipients shall be made through the Agency Official having jurisdiction in the matter; and

(6) Other pertinent reports, statements, correspondence, transcripts, minutes, and documents received by the Council from any and all parties, public or private. Reports submitted pursuant to this section should be received by the Council at least two weeks prior to a Council meeting.

(f) *Coordination of case reports and statements.* In considerations involving more than one Federal department, either directly or indirectly, the Agency Official requesting comment shall act as a coordinator in arranging for a full assessment and discussion of all interdepartmental facets of the problem and prepare a record of such coordination to be made available to the Council. At the request of the Council, the State Historic Preservation Officer shall notify appropriate governmental units and public and private organizations within the State of the pending consideration of the undertaking by the Council, and coordinate the presentation of written statements to the Council.

(g) *Council meetings.* The Council does not hold formal hearings to consider comments under these procedures. Two weeks notice shall be given, by publication in the FEDERAL REGISTER, of all meetings involving Council review of Federal undertakings in accordance with these procedures. Reports and statements will be presented to the Council in open session in accordance with a prearranged agenda. Regular meetings of the Council generally occur on the first Wednesday and Thursday of February, May, August and November.

(h) *Oral statements to the Council.* A schedule shall provide for oral statements from the Executive Director; the referring Agency Official presently or potentially involved; the applicant or potential recipient, when appropriate; the State Historic Preservation Officer; and representatives of national, State, or local units of government and public and private organizations. Parties wishing to make oral remarks shall submit written statements of position in advance to the Executive Director.

(i) *Comments by the Council.* The comments of the Council, issued after consideration of an undertaking at a Council meeting, shall take the form of a three-part statement, including an introduction, findings, and a conclusion. The statement shall include notice to the Agency Official of the report required under section 800.6(j) of these procedures. Comments shall be made to the head of the Federal Agency requesting comment or having responsibility for the undertaking. Immediately thereafter, the comments of the Council will be forwarded to the President and the Congress as a special report under authority of section 202(b) of the Act and published as soon as possible in the FEDERAL REGISTER. Comment shall be available to the public upon receipt of the comments by the head of the Federal agency.

(j) *Report of agency action in response to Council comments.* When a final decision on the undertaking is reached by the Federal Agency, the Agency Official shall submit a written report to the Council containing a description of actions taken by the Federal Agency subsequent to the Council's comments; a description of actions taken by other parties pursuant to the actions of the Federal Agency; and the ultimate effect of such actions on the property involved. The Council may request supplementary reports if the nature of the undertaking requires them.

(k) *Records of the Council.* The records of the Council shall consist of a record of the proceedings at each meeting, the case report prepared by the Executive Director, and all other reports, statements, transcripts, correspondence, and documents received.

(l) *Continuing review jurisdiction.* When the Council has commented upon an undertaking pursuant to Section 800.6 such as a comprehensive or area-wide plan that by its nature requires subsequent action by the Federal Agency, the Council will consider its comments or approval to extend only to the undertaking as reviewed. The Agency Official shall ensure that subsequent action related to the undertaking is submitted to the Council for review in accordance with § 800.4(e) of these procedures when that action is found to have an adverse effect on a property included in or eligible for inclusion in the National Register.

§ 800.7 Other powers of the Council.

(a) *Comment or report upon non-Federal undertaking.* The Council will exercise the broader advisory powers, vested by section 202(a)(1) of the Act, to recommend measures concerning a non-Federal undertaking that will adversely affect a property included in or eligible for inclusion in the National Register: (1) upon request from the President of the United States, the President of the U.S. Senate, or the Speaker of the House of Representatives, or (2) when agreed upon by a majority vote of the members of the Council.

(b) *Comment or report upon Federal undertaking in special circumstances.* The Council will exercise its authority to comment to Federal agencies in certain special situations even though written notice that an undertaking will have an effect has not been received. For example, the Council may choose to comment in situations where an objection is made to a Federal agency finding of "no effect."

§ 800.8 Criteria of effect.

A Federal, federally assisted, or federally licensed undertaking shall be considered to have an effect on a National Register property or property eligible for inclusion in the National Register (districts, sites, buildings, structures, and objects, including their settings) when any condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality of the historical, architectural, archeological, or cultural character that qualifies the property under the National Register Criteria.

§ 800.9 Criteria of adverse effect.

Generally, adverse effects occur under conditions which include but are not limited to:

(a) Destruction or alteration of all or part of a property;

(b) Isolation from or alteration of its surrounding environment;

(c) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

(d) Transfer or sale of a federally owned property without adequate conditions or restrictions regarding preservation, maintenance, or use; and

(e) Neglect of a property resulting in its deterioration or destruction.

§ 800.10 National Register criteria.

(a) "National Register Criteria" means the following criteria established by the Secretary of the Interior for use in evaluating and determining the eligibility of properties for listing in the National Register: The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

(1) That are associated with events that have made a significant contribution to the broad patterns of our history; or

(2) That are associated with the lives of persons significant in our past; or

(3) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(4) That have yielded, or may be likely to yield, information important in prehistory or history.

(b) *Criteria considerations.* Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(1) A religious property deriving primary significance from architectural or artistic distinction or historical importance;

(2) A building or structure removed from its original location but which is the surviving structure most importantly associated with a historic person or event;

(3) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life;

(4) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

(5) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

(6) A property primarily commemorative in intent if design, age tradition, or symbolic value has invested it with its own historical significance; or

(7) A property achieving significance within the past 50 years if it is of exceptional importance.

[FR Doc.74-1936 Filed 1-24-74;8:45 am]

Attachment XV

Distribution of Draft Environmental Impact Statement

The draft statement was sent for official review to the Federal, state and local agencies, and organizations. Those marked with an asterisk provided review comments.

Federal Government

Advisory Council on Historic Preservation
*Department of Agriculture
*Nuclear Regulatory Commission
*Energy Research and Development Administration
*Department of Commerce
*Department of Defense
    *Navy
    *Assistant Secretary of Defense
    *Department of Army
*Environmental Protection Agency
Federal Power Commission
General Services Administration
*Department of Health, Education and Welfare
Department of Housing and Urban Development
Interstate Commerce Commission
Department of Labor
Susquehanna River Basins Commission
Upper Mississippi River Basins Commission
Missouri River Basins Commission
Great Lakes Basin Commission
Pacific Northwest River Basins Commission
Ohio River Basin Commission
Souris-Red-Rainy River Basins Commission

National Endowment for the Arts
Office of Economic Opportunity
Department of State
*Department of Transportation
  U.S. Coast Guard
  *Federal Aviation Administration
  *Federal Highway Administration
  Secretarial Representative, U.S.,
    Regions V, VIII, IX and X
Department of the Interior
  Bureau of Land Management
  *Bureau of Indian Affairs
  *Fish and Wildlife Service
  Geological Survey
  *National Park Service
  *Bureau of Reclamation
  *Bureau of Outdoor Recreation
  Bureau of Mines
*Federal Energy Administration

Canada

Canadian Embassy, Washington, D. C.

State and Local

Alaska

- State Clearinghouse
- Office of the Governor - State of Alaska Division of Planning and Research
- Areawide Clearinghouse (other) Anchorage (Greater Anchorage Area Borough)
- *Attorney General

Washington

- State Clearinghouse
- Office of the Governor - Office of Program Planning and Fiscal Management
- Areawide Clearinghouse (metropolitan)
- Spokane (Spokane Regional Planning Conference)
- Areawide Clearinghouse (other)
- Walla-Walla Regional Planning Commission Whitman County Regional Planning Council
- *Department of Highways
- *State Forester

Oregon

- *Governor
- State Clearinghouse
- *State Highway Division
- *Federal Aid Coordination Section - Local Government Relations Division
- *Geology and Mineral Ind.
- Areawide Clearinghouse (other)
- Blue Mountain Council of Governments
- Central Oregon Intergovernmental Council
- Mid-Columbia Economic Development District

Southeast Oregon Council of Governments

*East Central Oregon Association of Counties

Klamath Lake Planning and Coordination Council

Department of Environmental Quality

Department of Forestry

California

State Clearinghouse

*Resources Agency

Office of the Governor - Office of Planning and Research

Areawide Clearinghouse (metropolitan)

Anaheim/Santa Ana/Garden Grove/Los Angeles/Oxnard/Ventura/

San Bernardino/Riverside/Ontario

(Southern California Association of Governments) Bakersfield (Kern County Council of Governments)

Sacramento (Sacramento Regional Area Planning Commission)

San Francisco/Oakland/San Jose/Vallejo/Napa/Santa Rosa (Association of Bay Area Governments)

*Public Utilities Commission

Idaho

Department of Fish and Game

State Clearinghouse

*Division of State Planning

Areawide Clearinghouse (other)

(Panhandle Planning and Development Council)

Nevada

*Governor

State Clearinghouse

State Planning Coordinator

*State Highway Department

Areawide Clearinghouse (other)

Carson Riverbasin Council of Governments

*Advisory Mining Board

Montana

State Clearinghouse

Office of Budget and Program Planning - Office of the Governor

Yellowstone Soil Conservation District

North Dakota

State Clearinghouse

*Aeronautics Commission

*State Park Service

*State Highway Commission

*North Dakota State Planning Agency

*Emmons County Soil Conservation District

*South Central Dakota Regional Council

South Dakota

State Clearinghouse

*Environmental Protection

State Planning Agency and the Office of the Budget

*Department of Game, Fish and Parks

Areawide Clearinghouse (other)

First Planning and Development District

Fourth Planning and Development District

Minnesota

State Clearinghouse

Intergovernmental Planning - Minnesota State Planning Agency

Iowa

*State Clearinghouse

*State Historical Department

*Office of Planning and Programming

Areawide Clearinghouse (metropolitan)

Davenport/Rock Island/Moline, Iowa/Ill.

(Bi-State Metropolitan Planning Commission)

Waterloo (Iowa Northland Regional Council of Governments)

Areawide Clearinghouse (other)

North Iowa Council of Governments

Illinois

State Clearinghouse

*Environmental Protection Agency

Bureau of the Budget

*Department of Conservation

Areawide Clearinghouse (metropolitan)

*Department of Transportation

Davenport/Rock Island/Moline, Iowa/Ill.

(Bi-State Metropolitan Planning Commission)

Indiana

State Clearinghouse

Indiana Budget Agency - Clearinghouse Review Officer

Areawide Clearinghouse (metropolitan)

Fort Wayne (Northeastern Indiana Regional Coordinating Council)

Areawide Clearinghouse (other)

Ouabache Regional - Planning Commission

Ohio

State Clearinghouse

*Environmental Protection Agency

Office of the Governor - State Clearinghouse

Areawide Clearinghouse (metropolitan)

*Columbus (Mid-Ohio Regional Planning Commission

Steubenville/Weirton,Ohio/W.Va.

(Brooke-Hancock-Jefferson Metropolitan Planning Commission

West Virginia

- *Governor
- State Clearinghouse
- Grant Information Department - Office of Federal State Relations
- *Department of Highways
- Areawide Clearinghouse (metropolitan)
  - Steubenville/Weirton, Ohio/W. Va.
  - Brooke-Hancock-Jefferson Metropolitan Planning Commission

Pennsylvania

- State Clearinghouse
  - *Department of Environmental Resources
  - *Pennsylvania State Clearinghouse - Governor's Budget Office
- Areawide Clearinghouse (metropolitan)
  - Pittsburgh (Southwestern Pennsylvania Regional Planning Commission)

Organizations

- Academy of Natural Sciences
- Air Pollution Control Association
- American Association of Petroleum Geologists
- American Bar Association
- American Federation of Mineralogical Societies
- American Fisheries Society
- American Forest Institute
- American Forestry Association
- American Gas Association
- American Geological Institute
- American Geophysical Union
- American Horse Protection Association
- American Institute of Biological Sciences
- American Institute of Mining, Metallurgical and Petroleum Engineers

American Institute of Planners

American Institute of Professional Geologists

American Mining Congress

American National Cattlemen's Association

American Park & Recreation Society

American Petroleum Institute

American Pulpwood Association

American Right of Way Association, Inc.

American Rivers Conservation Council

American Shore and Beach Preservation Association

American Society of Agricultural Engineers

American Society of Landscape Architects

American Society of Planning Officials

American Water Resources Association

Arctic Institute of North America

Association of Oil Pipelines

Bureau of National Affairs, Inc.

Center for Natural Areas

Center for Science in the Public Interest

Citizens Committee on Natural Resources

Concern, Inc.

Conservation Law Foundation

Defenders of Wildlife

Defenders of Outdoor Heritage

Ecological Society of America

Energy Policy Project

Environmental Action

Environmental Law Institute

Environmental Policy Center

Federal Bar Association

Federation of American Scientists

Federation of Western Outdoor Clubs

Forest Farmers Association

Friends of the Earth

Geological Society of America

Geothermal Energy Institute

Independent Petroleum Association of America

Industrial Forestry Association

International Association of Game, Fish and Conservation Commissioners

International Society for the Protection of Mustangs and Burros

International Union for Conservation of Nature & Natural Resources

Interstate Natural Gas Association of America

Isaac Walton League

League of Women Voters of the United States

National Air Tankers Association

National Association of Conservation Districts

National Association of State Forestors

National Audubon Society

National Coal Association

National Congress of American Indians

National Education Association

National Forest Products Association

National Limestone Institute, Inc.

National Parks Association

National Parks and Conservation Association

National Petroleum Refiners Association

National Reclamation Association

National Recreation and Park Association

National Safety Council

National Safety Management Society

National Society of Professional Engineers

National Wildlife Federation

Nature Conservancy

Natural Resource Council

Natural Resources Defense Council

New England Fuel Institute

Northwest Mining Association

Northwest Timber Association

Offshore Operators Committee

Public Fuel Service, Inc.

Public Lands Council

Resources for the Future

Rocky Mountain Oil and Gas Association

Save the Redwood League

Sierra Club

Society for American Archeology

Society of American Foresters

Society for Range Management

Society of Real Estate Appraisers

Soil Conservation Society of America

Sport Fishing Institute

Water Pollution Control Federation

Western Forestry and Conservation Association

Western Oil and Gas Association

Western Wood Products Association

Wilderness Society

Wildlife Management Institute

World Wildlife Fund

Attachment XVI

Chronology of Applications by Applicants

-Arctic Gas Project-

The following table is a chronology of the documents received from applicant companies pertaining to the proposed Alaskan Natural Gas Transportation System Project. The documents include copies of applications for permits and certificates, environmental assessments and reports and other materials relevant to the pipeline system.

The documents were received from February 2, 1974 to the present, from the following companies: Alaskan Arctic Gas Pipeline Company, Canadian Arctic Gas pipeline Company, Pacific Gas Transmission Company and Pacific Gas and Electric Company, Interstate Transmission Association (Arctic), Southern California Gas Company and Northern Border Pipeline Company.

Alaska Segment of Arctic Gas System Proposal

Alaskan Arctic Gas Pipeline Company

Date	Item
3/21/74	Application to Interior Department for Right-of-Way permit, Environmental Report, Socio-Economic Report
3/21/74	Application to F.P.C. for a Certificate of Public Convenience and Necessity and Presidential Permit.
11/15/74	Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
12/30/74	Second Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
1/21/75	Third Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
3/3/75	Fourth Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity

Date	Item
3/3/75	Fifth Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
3/10/75	Supplement to Application to Interior Department for Right-of-Way Permit
	Material necessary for the preparation of the environmental impact statement.

Canadian Segment of Arctic Gas System Proposal

Canadian Arctic Gas Pipeline Company

Date	Item
3/21/75	Application to Department of Indian Affairs for Grants of Interests in Territorial Lands
3/21/75	Application to National Energy Board for a Certificate of Public Convenience and Necessity
3/21/75	Biological Report, Series 1-15 and Archeological Supplement
3/21/75	Exhibit in support of Applications - Location, Design and Capacity of Facilities and Connecting Pipeline Facilities Construction and Operation Plans Environmental Report and Socio-Economic Statement
3/1/75	Biological Report Series (16-28)
3/18/75	First Amendment to the Application to the Department of Indian Affairs and National Energy Board
3/18/75	Exhibits in support of the Amendment to Applications to relocate the main line near Ft. Simpson and to dual certain river crossings (8.a, 8.b, 13.a, 14.d) With Maps
3/18/75	Supplement to Applications Exhibits relative to Alternative 42" supply lateral line size (8.a, 8.b, 10, 11, 13.a. 13.b, ;4.d)

Date	Item
5/20/75	Definitive Information: A Study of the Economic Impact of an Alaska-Canada-U.S. Gas Pipeline (2.c): Analysis of the Proposed LNG Transportation System for Northern Alaskan Natural Gas
6/9/75	Supplement to Application - Allocation Factor
9/ /75	The Macroeconomic Effects of an Arctic Gas Pipeline on the Canadian Economy 1976 - 1985
9/ /75	Exhibit in support of Applications - National Economic Effects of the Applicants' proposal (14.b)
9/ /75	Exhibit in support of Applications - Gas Supply Areas (4) Gas Supply Reserves (5) Gas Supply Deliverability (6) Supply Deliverability - Basic Data (7)
9/ /75	Exhibit in support of Applications - Market Projections (2)
9/25/75	Exhibits in support of Amendment to Resize Delivery Lines
9/26/75	Second Amendment to Applications to the National Energy Board
11/18/75	Amended application, also alignment sheets, diagrams, and some design drawings
11/18/75	Biological Report Series Vols. 27-34
	Material necessary for the preparation of the environmental impact statement

San Francisco Segment of Arctic Gas System Proposal

Pacific Gas Transmission Company and Pacific Gas and Electric Company

Date	Item
3/18/74	Application to F.P.C. for a Certificate of Public Convenience and Necessity and Presidential Permit with Environmental Report
12/13/74	Application to the Interior Department for Right-of-Way Permit (also graphic supplement)
2/1/75	Amended Application to F.P.C. for a Certificate of Public Convenience and Necessity
2/28/75	Application to F.P.C. for Authorization to Import Natural Gas
3/3/75	Amended Application to F.P.C. for a Certificate of Public Convenience and Necessity (2 volumes)
7/15/75	Prepared testimony of witness (Exhibit PG-70)
9/11/75	Supplement to Amended Application to F.P.C. for a Certificate of Public Convenience and Necessity
11/14/75	Supplement to PGT and PGE Application of Right-of-Way Permits - DOI
	Material necessary for the preparation of the environmental impact statement.

Los Angeles Segment of Arctic Gas System Proposal

Interstate Transmission Association (Arctic)

Date	Item
5/14/74	Application to F.P.C. for a Certificate of Public Convenience and Necessity (2 volumes), Presidential Permit and Environmental Report
11/12/74	Application to Interior Department for Right-of-Way Permit

Date	Item
2/26/75	Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
2/26/75	Second Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity
4/23/75	Third Supplement to Application to F.P.C. for a Certificate of Public Convenience and Necessity. Additional Testimony and Exhibits Report
10/13/75	Amended application for right-of-way IT A(A) to DOI
11/21/75	Material necessary for the preparation of the environmental impact statement. Fourth Supplement CP74-292-ITA(A) to F.P.C. and additional Testimony and Exhibits Volume.

Southern California Gas Company

Date	Item
11/15/74	Application to Interior Department for a Right-of-Way Permit
11/15/74	Environmental Data Statement
11/21/75	Material necessary for the preparation of the environmental impact statement. Second Supplement to F.P.C. from Pacific Interstate Transmission Company (representing ScCal) for Certificate of Public Convenience and Necessity CP 75-249

North Border Segment of Arctic Gas System Proposal

Northern Border Pipeline Company

Date	Item
4/15/74	Environmental Report (7 volumes), Energy Supply and Demand Report and Report on Atmospheric Environmental Study
5/14/74	Application to F.P.C. for a Certificate of Public Convenience and Necessity and Presidential Permit
7/10/74	Application to Interior Department for a Right-of-Way Permit
12/ /74	Supplement to Environmental Assessment - Supply of Gas
1/15/75	Environmental Assessment - Alternatives
2/15/75	Supplement to Environmental Assessment (letter)
3/3/75	Second Supplement to F.P.C. for a Certificate of Public Convenience and Necessity
9/26/75	Amendment to Application to F.P.C. for a Certificate of Public Convenience and Necessity
	Material necessary for the preparation of the environmental impact statement.

Attachment XVII

Verbatim Copies of Review Comments

On the following pages reproductions of comments received from Federal Agencies, Canadian Government, State and Local Agencies, Organizations and Congress are presented. Letters and review comments from private citizens and industry, including the applicants, are not reproduced in this attachment. All comments received have been copied and each comment responded to and placed in public files located in the 13 locations listed in Section 9.3.8.

The order in which the letters are presented in this section are:

(1) Federal Agencies
(2) Canadian Government
(3) State and Local Agencies (most local agencies and some organizations were submitted and are presented as part of the State Clearinghouse comments.)
(4) Organizations - including institutions and universities
(5) Congressional

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

October 7, 1975

Dear Mr. ~~Frizzell~~ Kent:

The Council on Environmental Quality has reviewed the 17 volume draft environmental impact statement (EIS) on the Alaska Natural Gas Transportation System. We have a number of comments to bring to your attention.

This EIS includes a vast amount of environmental information. We commend the Department for making this effort. We believe, however, that the statement's inordinate length may in fact be counter-productive to the basic purpose of the EIS process -- informing decisionmakers and the public about the significant impacts of a proposal and its alternatives. As such, we want to advise you of our concern and of our suggestions for preparing a final EIS that will be relevant to the Department's decisionmaking process.

Before getting into specifics, it may be useful to review CEQ's position on the matter of the length and complexity of impact statements. Although the Council is aware that the Interior Department has not developed EIS procedures pursuant to our guidelines, as revised in 1973, two provisions deal specifically with the appropriate focus and length of an EIS. Section 1500.8 (a)(1) states, for example that

> "Highly technical and specialized analyses and data should be avoided in the body of the draft impact statement. Such materials should be attached as appendices or footnoted with adequate bibliographic references. The statement should also succinctly describe the environment of the area affected..."

Section 1500.8(b) states that in developing the EIS,

> "...agencies should make every effort to convey the required information succinctly... giving attention to the substance of the information conveyed rather than to the particular form, or length, or detail of the statement."

The preparation of lengthy and overly detailed EIS' has been defended as necessary to cover every contingency in order to stave off "inevitable" lawsuits. Yet most lawsuits to date have turned on the question of whether or not an EIS was prepared rather than on its adequacy. Furthermore, adequacy depends upon the quality of analysis, not the quantity of data, and certainly not upon the development of a "litigation proof" document that includes a vast array of facts of arguable relevance to the project and even less relevance to the critical issues involved. The impact statement process has failed if it produces a document of such prodigious bulk that no one at the decisionmaking level in any agency will ever read it. I am enclosing, for your information, an excerpt from my recent congressional testimony on implementation of NEPA which deals with this very issue.

CEQ believes that the scope and depth of an EIS analysis should be commensurate with the environmental issues raised. In this case the most critical issues are the effects of alternative ways to obtain gas from the North Slope. The choice of alternatives is admittedly difficult since the environmental and other issues are not simple. The EIS, however, should address the significant environmental

effects of the choices available and should clarify for decisionmakers and the public the various environmental costs and benefits involved.

Viewed in this way, we seriously question the relevance of detailed and repetitive descriptions of the project, long lists of species accompanied by a tremendous amount of descriptive narrative and page upon page of highly technical charts, tables, and maps. A great deal of this material, if indeed it is necessary at all, can be referenced and made available separately to interested readers on request, in accordance with §1500.8 (a) and (b) of our guidelines, or placed in various public repositories.

Also questionable, we believe, is the microscopic approach to impact analysis itself in which the EIS focuses bit-by-bit upon every conceivable aspect of the environment yet fails to give the reader a sense of what the major issues and problems are. In the sections on alternatives the shortcomings of overly detailed description and analysis of minutiae are combined. Again, overcoming these problems will require an effort to define the important issues and concentrate on them, while summarizing, consolidating, or eliminating less important material.

Another way to shorten the final EIS is to omit what amounts to "boiler plate" descriptions of energy alternatives. Basic descriptions of energy resources and technologies that may serve as alternatives to the proposed action could be referenced to an already complete basic reference document: Energy Alternatives: A Comparative Analysis. This CEQ document has been distributed to appropriate Federal agencies and can be made readily available to the public. It was supported in part by the Department of the Interior, and, in part, grew out of an effort by the Bureau of Land Management to streamline its OCS impact statements.

Chapters 14 through 16 describe especially well the kinds of alternatives that should be evaluated in energy-related EIS: technological, locational, source, fuel switching, and policy.

Yet only a few of these major categories of alternatives, or of the options within such categories, are in fact, "reasonable" for purposes of NEPA and would require detailed impact analysis in any EIS, including the statement on the Alaska Natural Gas Transportation System. All other background and descriptive material could be referenced to Energy Alternatives.

The Department deserves great credit for the time and work devoted to preparation of the materials that comprise the draft EIS. The final impact statement should provide the type of analysis that will enable decisionmakers to choose the best possible way to transport Alaskan gas to market areas. I hope that our comments are helpful to the Department in producing such a document.

We would appreciate your advising us of your progress in revising the final EIS and of any way in which the Council's staff can assist you.

Sincerely,

Russ

Russell W. Peterson
Chairman

Honorable Dale K. Frizzell
Acting Secretary of the Interior
Washington, D.C. 20240

Enclosure

Excerpts from the
Statement of Russell W. Peterson,
Chairman, Council on Environmental Quality,
before the
Subcommittee on Fisheries and Wildlife and the Environment,
Committee on Merchant Marine and Fisheries
U.S. House of Representatives,
on the
Administration of the National Environmental Policy Act of 1969,
September 26, 1975

Many EISs are Becoming Far Too Long and Cumbersome

The inordinate length of many recent EISs has become one of the most aggravating problems with the NEPA process. Such length is not only unnecessary but it is contrary to the intent of NEPA and can be extremely harmful to the EIS concept. Descriptions of the existing environment and lengthy species lists that are unrelated to the decisionmaker's needs have taken up the bulk of far too many EIS's. On the other hand specific analysis of a proposal's impacts and the impacts of reasonable alternatives has still been deficient. Section 1500.8 of the CEQ guidelines emphasizes, for example, that descriptions should be succinct and that the discussion of impacts and alternatives should be the heart of the EIS. These guidelines have not, however, been followed by all agencies for a number of reasons -- because of a misconception by some EIS preparers that the EIS should be a comprehensive, highly technical and scientific document, because of the agency's receipt of voluminous material from an applicant or consultant that is too time-consuming to edit, or because the agency's lawyers recommend that, to cover every possible contingency, if the agency should be sued, the adequacies of the EIS must be measured by the inch. The Council is anxious to step up an attack on these policies that destroy the decisionmaking utility of the EIs process and we intend to encourage the development of agency procedures that:

(a) focus on the EIS as an important management tool;

(b) focus on the analysis of impacts and impacts of alternatives;

(c) simplify and make more meaningful the task of public and other agency review of the EIS;

(d) require agencies to limit the amount of descriptive material;

(e) use appendices and refer to other supporting information readily available to the public;

(f) permit the use of summaries of EIS comments or other procedures designed to respond to comments when they are particularly numerous or lengthy;

(g) wherever NEPA's goals permit, make the EIS a part of planning and decisionmaking documents.

However, we should also note that the need to shorten statements does not imply a need for reducing the amount of environmental research or study required for each project. Environmental conclusions expressed in the statement must still be logically supported by references to standard texts, optional appendices or textual material within the statement. Baseline studies and inventories will often be needed to determine if there are potential environmental problems. Where studies uncover potential for such problems, the statement must fully describe these problems and analyze alternative ways of dealing with them. However, where the studies reveal that there is not even a potential problem, the reports of the studies may be summarized or cited in the statement, or they may be made available as optional appendices. In any event the full inventories should not be included in the statement text.

Similarly, if there is reason to believe that an environmental concern raised by agencies or the public is not justified by the findings of the study, that part of the study which puts the concern to rest might be summarized or included in the statement, but the full study report need only be referenced and made available as an optional appendix. It need not be included in full in the EIS.

In short, the scope of both the study and the statement should be guided by the rule of reason and by the need to give the greatest attention to the most serious environmental issues revealed by the environmental studies.

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

JAN [illegible]

Dear Secretary Kleppe:

As suggested in your December 1, 1975 letter our staff met with Roman Koenings and other Department of the Interior Project personnel to discuss the Alaska Natural Gas Transportation System environmental impact statement (EIS). We believe that this meeting was very useful and informative and it appears that the Project staff and CEQ staff are in broad agreement over the form and content of the final EIS. We were pleased to learn from Mr. Koenings that the Project staff has fully sought to address in the final EIS the issues which we raised in our October 7 letter to Acting Secretary Frizzell.

One of the major concerns expressed in our earlier letter was that the inordinate length of the draft statement may, in fact, run counter to the basic purpose of the EIS process: to inform decisionmakers and the public about significant impacts of the proposal and its alternatives. The Project staff are aware of the need for and benefits of a shorter, more tightly drawn, and analytical final statement. We encourage you and your subordinate policy officers in the Department to support this objective.

Looking back at the Alaska Natural Gas EIS experience of the Department, there seem to have been two problems which deserve the Department's attention in the future. The first involves the inability of the Department and the FPC to prepare a single statement on the various alternative ways to transport Alaskan gas. We understand that the attempts to do so failed for several reasons, but that renewed efforts are now being made to resolve such difficulties in future EIS actions. In this particular case the best that can be done appears to be to insure that the FPC and Interior final EIS's are issued at the same time.

The second problem involves the delays in preparing the draft EIS caused by the Department's receipt of inadequate or frequently amended information from the pipeline applicant. Such circumstances can make it difficult for EIS preparers to make complete, timely and accurate analyses for a draft. We believe that the seriousness of this problem should be investigated by the Department so that, in the future, such delays can be avoided by clear understandings that early EIS preparation depends on full receipt of accurate data from a permit applicant.

We wish to reiterate that we are pleased with the positive and constructive approach of Mr. Koenings and his staff and would appreciate your comment on our suggestion with respect to coordinating release of the final EIS with FPC's effort.

Sincerely,

John Busterud
Acting Chairman

Honorable Thomas S. Kleppe
Secretary of the Interior
Washington, D.C. 20240

cc: Honorable Richard L. Dunham, FPC

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461

OFFICE OF THE ASSISTANT ADMINISTRATOR

DEC 22 1975

FEA 75-354

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

This is in response to your letter of July 25, 1975, requesting comments on the draft environmental impact statement (EIS) titled: "Alaska Natural Gas Transportation System." Our comments on the EIS are presented below.

General Comments

The Federal Energy Administration (FEA) believes that Alaskan natural gas should be provided to U.S. markets in a timely, economic, energy efficient and environmentally sound manner. The high level of effort and resources which your Department has brought to bear in the preparation of this EIS is commendable. We believe, however, that the analysis needs to be revised or expanded in several areas. At the same time, we recognize that the subject EIS is part of a fairly unique situation in which two Federal agencies, DOI and the Federal Power Commission (FPC), are preparing EIS's on alternative proposals. Some of our comments may be obviated when the FPC EIS, which we understand will utilize the DOI analysis, becomes available.

FEA's major comments relate to three areas:

(1) To the extent possible at this time, the final EIS should more substantively treat the major alternative proposal, i.e., the Trans-Alaska Route;

(2) Data and discussion more fully illustrating energy-related impacts such as energy transportation efficiencies and time of pipeline construction should be incorporated; and

(3) The draft EIS should highlight the environmental impacts of major concern in a manner that would assist reviewers in making comparative assessments of the environmental impacts of the proposed and alternate routes.

The major alternative to the proposed route is the Trans-Alaska combination pipeline-LNG tanker route. The EIS indicates that studies on pipeline integrity, engineering, the existing environment and impacts, and energy efficiencies of construction and operation necessary to analyze the impacts of this alternative have not yet been done (page VI-839). This precludes a detailed treatment of this alternative at this time. However, it must be recognized that a comparative judgment on these two routes is not feasible until these studies are completed and the impacts of the Trans-Alaska route are treated. Recognizing that FPC is preparing an EIS on the Trans-Alaska route it is recommended that DOI work closely with FPC to assure that the impacts of each route are treated in a manner that will facilitate comparative assessments. In particular, DOI and FPC should consider the preparation of a summary document highlighting the major environmental impacts of each of the major proposals.

The EIS independently addresses each major geographical area that the project covers, while the overview volume abstracts information presented in the individual section. Greater discussion of the impacts of the project as a whole is required.

More detailed comments are presented in two enclosures: (1) comments on the energy impact of the proposal, and (2) comments on the environmental impact of the proposal.

We appreciate the opportunity to comment upon this EIS. Our comments are made in the interests of assuring sound planning towards our energy goals. We hope that these comments are of use to you in proceeding with this important program.

Sincerely,

Roger W. Sant
Assistant Administrator
Energy Conservation and
Environment

Enclosures

ENCLOSURE I

Comments on the Energy Impact of the Proposal

INTRODUCTION

Extensive U.S. natural gas reserve additions and development of those reserves is necessary to meet increasing shortages in supply and to achieve the Nation's goal of energy independence by 1985. Availability of the Alaskan natural gas resource to markets in the lower 48 States will be a major part of this effort.

Timing of Development

An important issue in the development of Alaskan natural gas reserves is the timing of the activity relative to oil production in the Prudhoe Bay area. Since the natural gas is associated with the oil reservoirs, the two must be produced simultaneously. This consideration plus the need for natural gas in the lower 48 States dictate expedient development of the natural gas reserves as the most logical course of action.

The EIS should provide a more complete assessment of the time required to bring the proposal and the alternatives on line. This would be useful in assessing the energy supply impact of the program and in evaluating potential environmental impacts in the lower 48 states that would result from extended periods of natural gas curtailment.

In summary, accurate estimates of the time needed for the proposed pipeline and its alternatives to become operational should be provided.

Energy Efficiency

Any system to transport Alaskan natural gas to market will itself require energy. The relative energy efficiencies and resources required for constructing and operating the proposed route and its alternatives, to the extent possible, should be examined in the EIS. Also, the suitability of the routes to transport natural gas from reserves other than those of the Prudhoe Bay should be discussed.

The EIS is inconsistent in estimating the energy efficiency of the proposed route. At one point it states that approximately 15 to 20 percent of the gas entering the pipeline at Prudhoe Bay would be consumed by the time it reaches the system terminals (page I-518). Another section of the EIS estimates the natural gas pipeline efficiency at 90 percent (pages VI-317, VI-322).

Although the EIS discusses the energy efficiencies of some of the less probable alternatives (e.g., ice-breaking LNG tankers, methanol pipeline and an LNG-monorail system), it does not discuss the energy efficiency of the pipeline-LNG tanker combination route proposed by El Paso. Preliminary estimates indicate that there is an approximate 16 percent loss of energy for the Trans-Alaska pipeline-LNG tanker route as compared with a 9 percent loss of the proposed Trans-Canadian route.

The proposed pipeline route could possibly transmit natural gas from a number of fields in addition to the Prudhoe Bay Field. Estimates of natural gas resources on the North Slope, not including the Prudhoe Bay Field, range from 19 to 100 trillion cubic feet. The MacKenzie Delta-Beaufort Basin Region in Canada is estimated to have large amounts of recoverable gas, in addition to the reserves slated for initial development. The Northern Border pipeline would cross oil and gas producing areas in several States. In addition, it could provide a basis for a gasification industry in Montana and the Dakotas where significant coal deposits are located. The ability of the system to serve multiple sources as well as the potential for initiating other energy developments should be addressed further in the final EIS.

In summary, a more complete assessment of the energy impacts of the proposed gas pipeline and its alternatives in terms of (1) the timing of the transportation system development, (2) the energy efficiency of the system, (3) the reliability of the system, and (4) the potential for the systems serving as catalysts for other energy programs, is desirable.

ENCLOSURE II

Comments on the Environmental Impact of the Proposal

INTRODUCTION

In addition to comments on environmental impact, this section lists points in the EIS which need clarification.

Alternative Routes

a. Interior Route (page VI-407)

The Interior Route would run generally southwest of the Arctic Wildlife Range. In comparison to the proposed route, this route would avoid the current boundaries of the Arctic Range and from an environmental standpoint appears to warrant serious consideration. A more detailed analysis of the environmental impacts for this route should be provided in the final EIS including a discussion of the potential impacts if the boundaries of the Range were extended southward as currently proposed by certain environmental groups.

b. The Fairbanks Corridor (page VI-409)

This alternative route would also avoid the Arctic National Wildlife Range; have less net effect on the total water fowl population (reference pages V-657 and V-670 for graphic display); utilize existing pipeline corridors of the Alyeska Pipeline; provide more ready access to the line and facilities; utilize more existing roads/airstrips, and provide more ready tie-ins for the more populated Alaskan areas. The degree of impact on primitive areas for this alternative should be given more detailed treatment in the EIS and mention should be made of other factors such as Canada's disposition towards this route that would be involved in an ultimate selection.

Pipeline Design

Pipeline integrity is important relative to assessing potential environmental risks. Since standard design criteria for pipeline are not appropriate for use under Arctic conditions, the applicants' analysis of pipeline integrity in the Arctic should be completed prior to the final EIS.

Construction Route and Siting and Facilities

The EIS presents a general survey of the proposed path. It indicates that changes in the route may be made as mitigating measures to avoid unstable, sensitive, or valuable areas. While understanding that the ultimate determination of areas to be circumvented awaits the final planning stages of this project, the EIS should include the criteria by which final mitigating route changes will be made.

Pipeline Repairs

There should be an analysis of and procedures proposed for carrying out repairs to the pipeline and associated facilities in the tundra and permafrost areas. As noted on page I-433, the resultant damage to the environment from emergency repairs may be "more severe than that resulting from initial construction."

Required Information

In the EIS, the Department of the Interior frequently states that the applicants have provided insufficient or inaccurate information. To the extent possible, this should be corrected in the final EIS. In particular, the mitigating measures to be incorporated into the project are not yet clearly defined, nor, in the absence of a final route, are they site-specific.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 3 0 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D. C. 20240

Dear Mr. Koenings:

This is in response to your letter of July 25, 1975, requesting comments on the Draft Environmental Impact Statement (DEIS) for the "Alaska Natural Gas Transportation System".

In accord with the Council on Environmental Quality Guidelines, the staff review concentrated only on those areas for which the Nuclear Regulatory Commission (NRC) has special expertise or jurisdiction by law. Therefore, only the impacts of these proposed actions on the radiological health and safety of the general public and on any NRC licensed facility were assessed.

In this regard, the staff's review of the DEIS indicates that the proposed high pressure natural gas pipeline would pose qualitatively higher accident risk to nuclear power plants than current pipelines. Therefore, should the final routing of the pipeline approach within 10 miles of any nuclear power plant, the NRC staff should be notified so that a specific hazards analysis can be performed which reflects the local topography and meteorological conditions. This analysis will serve to determine what action, if any, is required to assure that the safety of these nuclear power plants is not adversely affected. To assist you in this determination, Enclosure 1 is a list of coordinates of present and proposed nuclear power plant sites within the continental United States. Those sites in states through which the proposed pipeline now passes are asterisked. Although the pipeline rights-of-way have not been finalized, it is noted that the proposed route passes through Cordova, Illinois, which is also the site of the 2 Unit Quad Cities Nuclear Generating Station.

Enclosure 2 contains specific comments regarding the accident analysis performed in the DEIS for large gas leaks. The staff routinely evaluates pipeline hazards to nuclear power plants and the experience gained in performing these evaluations provided the basis for the comments.

Thank you for the opportunity to comment on the DEIS. If you have any questions concerning these comments, we will be happy to discuss them with you.

Sincerely,

B. J. Youngblood/for
Daniel R. Muller, Assistant Director
for Environmental Projects
Division of Reactor Licensing

Enclosures:
As stated

cc: Council on Environmental
Quality (5)

ENCLOSURE 2

COMMENTS ON ALASKA NATURAL GAS TRANSPORTATION SYSTEM DEIS

The following comments were generated as a result of the staff review of the DEIS for the Alaska Natural Gas Transportation System.

1. Natural gas pipelines operated above about 1000 psi have qualitatively different leak accidents than common gas transmission lines. This is due to the fact that Joule-Thompson expansion of natural gas at these higher pressures will form gas clouds having negative buoyancy. The location classification contained in 49 CFR 192 is based upon observed leak consequences of much lower pressure pipelines which produce buoyant gas clouds under accident conditions. This Federal Regulation appears inadequate as a safety standard with which to judge the proposed 1680 psi pipeline, since it assumes that ground level flammable concentrations are likely to extend no more than 201 meters (1/8 mile) from the pipeline in the event of a blowout. Hazard from delayed ignition of flammable clouds as a result of failure of the proposed pipeline extends at least an order of magnitude farther. The staff's calculations, based on the same techniques routinely used to evaluate pipeline hazards to nuclear power plants indicate that the lower flammable limit might not be reached for a distance of 5.6 miles under adverse meteorological conditions.
2. The "worst case" accident proposed (Part V) still assumes that adjacent block valves will close in a timely manner. The worst case should consider the blow-out to occur at one block valve, with the consideration that adjacent block valves may fail to automatically close, or that foul weather prevents manual closing. The current accident rate with lower pressure transmission lines indicates about 10^{-4} major leaks per year per mile, such that the accident described is not the "worst case," but can be expected to happen several times during the life of the pipeline.
3. The number of block valves estimated for the pipeline (Table I.OV.1-1) appears inadequate to comply with the block valve spacing requirements of 49 CFR 192 over the entire length of the proposed pipeline. If it is proposed that greater spacing be used in the Canadian wilderness, the increased consequences of pipe leaks in this area should be treated.

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
DES-75/44

OCT 3 0 1975

Memorandum

To: Project Manager, EIS Task Force
Bureau of Land Management

From: Assistant Director, Bureau of Outdoor Recreation

Subject: Review of Alaska Natural Gas Transportation System Draft Environmental Impact Statement

We have reviewed the subject document and have the following comments to offer.

General Comments

Although there is a massive amount of material, it has been well-organized and provides clear information concerning the environmental effects of the proposed pipeline. However, the draft statement would be improved if it would also delineate "key" or "critical" resource areas and then discuss them in detail. These key areas would be areas where the most significant impacts are likely to occur (e.g., wetlands, badlands, river crossings, wildlife and recreation areas, etc.). Discussing these sites in their entirety would give a much better picture of them than breaking up the discussion according to each type of resource. The statement's present organization makes it very difficult to determine what type of environment exists in these areas.

It is unclear just what mitigation measures will take place. The discussion of the mitigating measures should deal only with those things which will actually be required of the applicant, not what should be done. Can the mitigating measures proposed by the Department of the Interior be required of the applicant? It is not explicit in the statement whether this is possible or not. One cannot determine what the impact will be without a clear understanding of the mitigation measures which actually will be undertaken.

Specific Comments

Part I - I.3

The draft statement is based on a corridor concept, but nowhere does the statement define exactly how wide the corridor is. Although the statement on page I-3 defines the corridor as "several miles," this is not specific enough. The final statement should address this question and define the width of the corridor.

I.6

In the Executive Highlights the start up capacity of the pipeline is defined as 3.25 billion cubic feet per day, but it is listed as 2.25 billion cubic feet per day in Part I, Volume 1, page I-6. This discrepancy should be rectified.

Part II - II.921, 3rd paragraph, Impacts of the Proposed AAGPC Pipeline System on Recreational Resources and Use

We do not agree with the statement that the extent of physical destruction to recreational resources "is limited to the area beneath the pipeline and its related facilities." Certain borrow sites, where excavation will severely disturb primitive recreational resources, should be added to the "primary impact" category. This will be significant since excavation of a total of "at least 3.1 million cubic yards of borrow materials" (p. 654) is planned.

II.1435, Impacts of the Offshore Alternative on Recreation and Esthetics

In the earlier discussion of climate and the offshore alternate (p. 1401), the historic report of difficulties experienced in shipping along the Beaufort Sea Coast is noted. Presumably, this report will be updated in the final environmental statement to include the more recent problems of tugs and barges frozen into the Sea (Summer, 1975).

This recurring situation will present significant difficulties for all alternatives which rely on coastal shipping of equipment and supplies.

Our concern is that the potential for accidents or spills from offshore traffic is not included in the description of impacts of the offshore alternative on recreation and esthetics. Since there are distinctive recreation and esthetic values along the Beaufort Sea Coast, we believe some consideration should be given to the potential for harm to these resources.

II.1666, 2nd paragraph, The Interior Alternate Route - Recreation and Esthetics

While the anticipated intensity of recreation use is impossible to predict, it seems certain that more than a slow increase in demand for recreation will be created by construction along this route. Improved access to an area with high-quality recreation and esthetic values, combined with the construction boom work force of approximately 5,000, could drastically increase the demand for recreation.

II.1673, 2nd paragraph

If there is planned construction of "13 miles of permanent road in mountainous terrain," the earlier statement on page 1519, paragraph 2, that "new permanent roads will not be built," should be corrected.

II.1755, Impacts Caused by the Interior Alternative Pipeline System on Recreation and Esthetic Resources

The long-range possibility that there could be a permanent road from the Yukon River north to the Coleen area should be added to the discussion of the effects of improvement of access on recreation and esthetics.

Part III

No comments.

Part IV

Our only comment on Part IV is in reference to the ITA(A) pipeline proposal and, in particular, sections which refer to the Owyhee River.

The Bureau of Outdoor Recreation has recently initiated a study of the Owyhee River in compliance with the National Wild and Scenic Rivers Act. The text on pages 1524 and 1780, and in other portions that mention the river and its potential for classification needs to include this information.

Part V.040, 363, and 942

The depth to which the pipeline will be buried is not specifically defined. Title 40 of the Code of Federal Regulations provides that the pipeline must be buried at least 18 inches. However, when this subject is discussed in the draft, it is stated on page V-040 that the pipeline will be buried at an average of 30 to 36 inches below the ground; on page V-363, that the pipeline will be "placed at a minimum depth of about 7 feet;" and on page V-942, that "the trench generally will be from 7 to 8 feet deep, and will in few places exceed 10 feet." These seeming discrepancies should be cleared up.

V.512

The discussion of the proposed crossing of the Little Missouri on page V-512 does not adequately describe this resource. The statement does mention that this is a "5(d)" river, but does not give the reader enough detail to enable him to understand the river's characteristics in the area of the proposed crossing. The discussion by resource does not give a complete picture of the Little Missouri, the badlands, and the riparian vegetation which makes this area a special site.

V.526

The discussion of the crossings of the Wapsipinicon River has many of the same problems as that of the Little Missouri. It does not deal with the environment at the crossings. On page V-526, a paragraph describes the river basin, but does not deal specifically with the proposed corridor.

V.537

Elaboration of the fourth paragraph on page V-537 is needed. The draft should explain how the river can have a flow of 17,120 cfs for 90 percent of the time and a flow of 32,240 cfs for 50 percent of the time.

V.635-639

The discussion of Unique, Sensitive and/or Threatened Ecosystems on pages V-635 through V-639 is incomplete. The Badlands of North Dakota are both unique and sensitive and should be dealt with in this section. Disruption of this sensitive land type will cause significant impacts, and the description of these lands should be detailed enough to recognize this fact.

V.931

The section dealing with the permanent changes to the landscape (p. V-931) states that the trench for the pipeline may not be filled and would be evident for the life of the project in the vicinity of the crossing of the Little Missouri River. This is a significant impact for which specific mitigation should be implemented. The scar will be permanent rather than for the life of the project unless the trench can be repaired. If it is possible to fill the trench and reestablish vegetation after the pipeline is removed, why is it not possible while the pipeline is present?

V.1170

According to a statement made on page V-1170, the Little Missouri, the Wapsipinicon, and the Wabash rivers may lose possible qualification for wild or scenic river status because of the proposed crossings. This statement should be expanded and the impacts which may cause this loss should be enumerated. Also, the impact of losing the possible wild and scenic river status should be discussed in the unavoidable impact section.

V.1186-1196

The discussion of the recreation areas which will be affected (pp. V-1186 through V-1196) should be accompanied by maps of the areas. These would aid in determining what impacts would occur and what mitigation should be recommended to minimize these impacts. We would recommend that alternative routes be investigated and strongly support the alternatives suggested in the mitigation section which avoid West Fork River Green Belt, Big Bend State Conservation Area, Starved Rock and Matthiessen State Parks, Mingo Creek Park, Round Hill Regional Park, Salamonie State Recreation Area, and the crossings of the Wapsipinicon River.

V.1277

It is stated on page V-1277 that provisions for screen plantings to avoid long-tunnel views will be required where present esthetic values dictate the need for special mitigative measures. This is a mitigation measure which we strongly support and wish to know who will decide when esthetic values dictate that screening is necessary and what types of vegetation will be used. If the screen is to be of the low bushy type, it will not suffice when the rest of the area is wooded with mature trees. Also, we would suggest that the Little Missouri be added to the list of rivers which will require the screening if it is crossed in one of the stands of riparian timber which occurs in the flood plain.

V.1287

The mitigation measure which is suggested to minimize the danger of fire (p. V-1287) is to construct firebreaks between the right-of-way and the prairie woods or fields adjacent. We would like more discussion of these firebreaks and what their effects will be on the esthetics of the region. How wide will they be, and will they be void of all vegetation?

V.1318

The section dealing with additional measures which could reduce impacts brings up a point which deserves more consideration. On page V-1318 it is stated that the revegetation could cause high concentrations of both livestock and wildlife along the reseeded right-of-way, and that this upsets the normal grazing pattern and frequently destroys the new vegetation along the right-of-way. This being the case, how will the revegetation take place? Will the right-of-way be fenced in these areas to allow the vegetation to establish itself? If so, what will be the visual impacts of such a fence and how will it affect wildlife migrations?

The draft does not mention the recently concluded Pennsylvania statewide wild and scenic rivers inventory. The Task Force for the study recommended that the Commonwealth grant the segment of the Youghiogheny River from West Newton to Versailles "A" priority status (i.e. having statewide significance). That recommendation is now pending action by the State. The river may be classified "modified recreational" and as such any serious intrusions would be discouraged. The proposed pipeline would cross this portion of the river.

Part VI - Alternatives

The sections on alternative routes do not contain sufficient data to allow an independent assessment of the impacta involved on alternate routes. We are alao uncertain as to whether the Department of the Interior could (or would) dictate a deviation of route from that proposed by the applicant in order to achieve a lower magnitude of impact.

The fact that the proposed route from Kankakee, Illinois, to Delmont, Pennsylvania, was considered to be reasonable for that segment should not preclude a discussion of other routes. It is difficult to believe that reasonable alternatives to this route do not exist.

Also, the discussion of alternatives does not include the impacts of changing the route in Canada, nor does it discuss the lengthening or shortening of the pipelines which branch off to the West Coast. Without this information, the discussion of the impacts of the various alternatives is incomplete. For example, Alternative 5 states that the pipeline will be 345 miles shorter if this alternative were used. It would aeem that the lengthening of the other pipelines would minimize this gain for the Northern Border route. These tradeoffs should be explained.

Fred J Jones

United States Department of the Interior
BONNEVILLE POWER ADMINISTRATION
P.O. BOX 3621, PORTLAND, OREGON 97208

OFFICE OF
THE ADMINISTRATOR

In reply refer to: EBP-AJ

OCT 14 1975

Memorandum

To: EIS Task Force, Alaska Natural Gas Transportation System, Bureau of Land Management, Washington, D.C.

From: ACTING Administrator

Subject: Review of Draft Environmental Impact Statement on the Alaska Natural Gas Transportation System

Per your request we have reviewed subject statement. The following comments concern the effect the Alaska Natural Gas Transportation System pipeline may have on Bonneville Power Administration's transmission facilities.

Two pipelines would be located within the BPA service area and would enter the United States at Kingsgate, Canada, cross the panhandle of Idaho, and continue into the State of Washington. These two lines would be parallel to a point in southwestern Whitman County where one line runs in a general southwesterly direction paralleling an existing Pacific Gas Transmission Company 36-inch line, which was constructed in 1961, to the San Francisco area. This EIS noted only the location of powerline crossings on the Kingsgate-San Francisco section.

The table on pages 22 and 23, Volume 1, Part IV lists the crossings of BPA transmission lines. Some of the legal descriptions should be:

In Text	Correct
Section 16 T 59N R1E BM	Section 16 T59N R1W BM
Section 10 T57N R2E BM	Section 10 T57N R2W BM
Section 9 T53N R3E 8M	Section 9 T53N R3W BM
Section 23 T10S R14E WM	Section 24 T1DS R14E WM
Section 23 T10S R14E WM	Section 24 T1DS R14E WM

The following is the corrected table with crossings, legal description, line name, and mile map. We find that BPA approved crossing permit applications for the crossings listed below and are covered in contract No. 14-03-29396, dated September 3D, 1974.

Township and Range	Section	Line Name	BPA Mile Map
T62N, R1E BM	35	Bonners Ferry-Troy	1
T59N, R1W BM	16	Sand Point-Bonners Ferry	18
T57N, R2W BM	9	Sand Point-Bonners Ferry	4
T53N, R3W BM	9	Spirit Lake-Athol	6

Township and Range	Section	Line Name	BPA Mile Map
T13N, R37E WM	28	Lower Monumental-Little Goose #1	19
T7N, R32E WM	3	Franklin-Walla Walla	17
T4N, R29E WM	29	McNary-Pendleton	12
T4S, R2DE WM	2	DeMoss-Fossil	33
T7S, R15E WM	23	John Day-Grizzly #1	55
T7S, R15E WM	23	John Day-Grizzly #2	55
T10S, R14E WM	12	Celilo-Sylmar	65
T10S, R14E WM	24	John Day-Grizzly #1	74
T10S, R14E WM	24	John Day-Grizzly #2	74
T16S, R13E WM	15	Redmond-Burns	7
T17S, R12E WM	36	Redmond-Klamath Falls	15
T26S, R8E WM	29	Redmond-Klamath Falls	77

The natural gas lines must also cross the Bell-Noxon (Spokane-Hot Springs), Walla Walla-Lewiston, and the Pendleton-La Grande transmission lines for which no crossing permits were issued and are not referenced in the EIS.

The discussion of powerline crossings in the narrative are meager and general. A total of 43 known powerlines are crossed in the lower 4B states, and numerous electric power facilities are crossed or are in the vicinity of the proposed pipeline.

Nothing was noted as to the impacts or hazards to powerlines. The statement should discuss these impacts and the special designs to be employed to minimize construction and operational hazards in relation to the transmission line crossings. Specific precautions to be taken when near high-voltage transmission lines ought to be spelled out in detail as suggested in Volume IV, page 772.

Figure 1.1.4.2.-6 is missing from Volume 1, Part IV. The proposed Celilo-Mead d-c line as located on Figure 1.1.4.2.-7 is in error. The line is planned to parallel the Celilo-Sylmar d-c line through Dregon.

In Volume IV, page 66, insert the following description before, "3) Route Surveillance" and renumber succeeding sections.

3) HVDC Ground Current
The proposed pipeline comes within 33 miles of the ground electrode at the Celilo terminal of the Pacific High Voltage Direct Current intertie. Recognizing the possibility of the occasional failure of the cathodic protection system, additional surveillance of the pipeline in this area might be required.

The HVDC system utilizes two metallic conductors for normal (bipolar) operation. During emergency operation, however, the system can be used in a monopolar mode, using the earth as a return. The operators of the intertie will attempt to minimize the amount of ground current due to normal bipolar unbalance. This has historically been an average of approximately 5 amps. The operators will also strive to minimize the ampere-hours of emergency monopolar ground current operation in any one year. This takes into consideration the availability of monopolar metallic return for long-term pole outages and planned maintenance of pole equipment. For the period August 1972 to December 1974, the number of ampere-hours of ground electrode current exceeding 2D amps has been 31,719.

The proposed pipeline closely parallels the already existing pipeline in this area of proximity to the d-c electrode. Ground current due to the d-c electrode at this point is considered negligible.

Memo to EIS Task Force, Alaska Natural Gas Transportation System, Bureau of Land Management, Washington, D.C. Subj: Review of Draft Environmental Statement on the Alaska Natural Gas Transportation System

On the bottom of page IV-936 and top of page 938, a portion of the text is missing.

Eight lines from the bottom of page VI-373, "931 Btu" should read, "931 BBtu."

In general, it is felt that the level of analysis in the draft EIS is not detailed enough to allow for more specific comments.

We appreciate the opportunity to review and comment on this draft.

Ray Folken

United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L7619-MQ

OCT 28 1975

Memorandum

To: Director, Bureau of Land Management
Attention: EIS Task Force, Alaska Natural Gas Transportation System

Through: Assistant Secretary for Fish and Wildlife and Parks noted for Fw RR 10-28

From: Associate Director, Park System Management

Subject: Review of Draft Environmental Statement on the Alaska Natural Gas Transportation System (DES 75-44)

As requested in your letter of July 25, 1975, we have reviewed the subject statement. It is recognized that much additional effort is required to identify specific project environmental impacts and to develop measures to avoid or mitigate these impacts. Our principal concern is the development of procedures to minimize adverse impacts to recreational and cultural resources. Additional information should be included in the final statement describing what specific steps will be taken by the government and by the applicant during the remainder of the decisionmaking process which will lessen the overall environmental costs of the project.

We offer the following specific comments:

I:316-326 - It is recognized that not all properties of cultural significance within the project's area of adverse impact have been identified. We advise that presently unidentified and uninvestigated sites be located and analyzed prior to the taking of any action that would irreversibly cause adverse impact to them. Those steps to be taken that will ensure that this occurs should be described in the final statement.

I:395-396 - Similarly since the extent of cultural and paleontological resources is not definitely known, since the exact alignment of the pipeline is not defined, and since the specific impact avoidance and mitigating measures have not been developed it is impossible to assess environmental impacts with any degree of certainty. The procedure that will be followed to ensure that the impacts cultural and paleontological resources are properly assessed and considered during specific phases of

the decisionmaking and planning process should be stated in the final statement. It is inappropriate to schedule completion of specific impact assessment and mitigating measures implementation, at that point in the planning process immediately prior to or during construction. A more appropriate place in the planning process to require completion of specific impact assessment and mitigating measures development is just prior to that phase when a specific alignment is selected.

It is suggested that the overview contain a summary of the magnitude of overall impacts and a description of the types of impacts that are probable.

I:426 - The overall concepts proposed by the applicant for the mitigation of adverse impacts to historical, archeological and unique area values appear to adhere to Congressionally defined national policy to conserve these resources. Adequate provisions to ensure that this occurs should be included in the proposal. We suggest that the applicant be provided with detailed guidance in developing specific measures to implement this policy during the remainder of his planning process. Recommended specific measures are outlined below.

I:448 - Accomplishment of detailed archeological survey work should be scheduled well before final on the ground staking of the pipeline centerline. This work, as well as the development of appropriate mitigating measures, should be completed at such time to afford alteration in route alignment.

The preferred approach to follow upon discovery of a significant cultural site is to avoid it and to permit preservation in situ. Although salvage is preferable to destruction it should only be commenced as a last resort.

To proceed with implementation of national cultural resource preservation policy "in the most economical manner" is inconsistent with the goals of this policy. We suggest that this criterion be struck and that one be established to reflect adherence to national policy.

I:474 - Through proper identification procedures and through the implementation of proper avoidance and mitigating measures much of the adverse effects described should not occur. It should be pointed out that destruction of known cultural sites will only occur after completion of consultation as outlined in 36 CFR Part 800.

I:475 - Undoubtedly much of the described adversity to recreation and aesthetic values will likewise be reduced through implementation of proper mitigating measures.

I:504-505 - The discussion of the project's short-term use versus long-term productivity of cultural and paleontological resources is inaccurate. By disturbing, destroying or removing these resources the potential to study them, in situ, is lost. Furthermore, there is adversity associated with disturbance of resources in relation to other resources in the vicinity.

It is true that knowledge in the fields of paleontology and human culture will be enhanced due to implementation of measures to mitigate adverse impact. However it should be recognized that the potential for providing knowledge by those resources that are to be impacted would remain unaffected if the project were not to occur.

II:907 - Delays in installation of the pipeline, as described in paragraph 3, should be avoided by completion of adequate surveys and development of mitigating measures at the proper time in the planning process.

II:1164-1166 - The special mitigating measures proposed by the applicant are inadequate and do not appear to comply with Congressionally mandated national policy. All areas of potential adverse impact should be surveyed and appropriate measures to mitigate this impact should be properly developed.

II:1167-1169 - The additional mitigating measures described should be further developed through consultation with the National Park Service and the Advisory Council on Historic Preservation. Proper scheduling of surveys and development of specific mitigating measures should avoid many unnecessary construction delays and associated economic penalties.

IV:453 - It appears that no National Natural Landmarks will be affected by the project in this section of the pipeline. However a potential landmark has been identified in the vicinity of the proposed route. This site is Camas Meadow located about two miles north of Spangle in Spokane County, Washington. This small (about five acres) but excellent stand of Camassia quamash is a remnant of a formerly extensive camas meadow used by Indians.

IV:658-660 - The indicated quantity of cultural resource sites to be affected by the project is an estimate and additional surveys will undoubtedly identify considerably more sites.

IV:1478-1483 - The data presented on these pages demonstrates that considerable benefit will result through more intensive surveys in that added information will be available in order to make informed decisions during the planning process.

IV:1889 - Please refer to the comments for page I:448.

IV:1969 - The impacts described on this page portend the potential adversity to cultural resources that could result from the project. The implementation of adequate identification and mitigating measures should lessen the loss to cultural resources considerably.

V:838-875 - Please refer to comments for pages IV:658-660.

V:976 - Dependant upon the specific alignment selected there may occur adverse impact to Two-Top Mesa National Natural Landmark.

V:1430 - Please refer to comments for page IV:1969.

We recommend that the permit issued by the Department and that other licenses and permits issued by other Federal agencies contain a provision that would bind the applicant to a procedure that would give proper consideration to cultural resources.

We believe that the most straightforward and trouble-free means of assuring quality control, proper phasing of surveys and investigations with construction schedules, and all coordination and procedural compliance with the various State and Federal jurisdictions, is for the entire sequences of work to be administered by the Departmental Consulting Archeologist utilizing funds received from the permittees under existing authorities including Section 4 of the Historic Sites Act of 1935 (49 Stat. 666) and Section 6 of the Archeological and Historic Preservation Act of 1974 (88 Stat. 174). In general we suggest that the following steps would be involved:

1. Once the specific corridor has been selected, but prior to the specific selection of an alignment, field survey would be undertaken to locate sites of historic, archeological, or architectural significance.

2. All sites that are located shall be professionally evaluated for the National Register of Historic Places and this evaluation reviewed by the Departmental Consulting Archeologist and the Division of the National Register.

3. The location of all significant sites to be affected by construction would be reviewed by the agency official in consultation with the Departmental Consulting Archeologist with the construction contractor to determine whether feasible routing alternatives exist which would avoid affecting significant sites. In all cases "effect" would be determined in consultation with the Departmental Consulting Archeologist in accordance with the criteria for effect of the Advisory Council on Historic Preservation (36 CFR Part 800).

4. If there must be effect upon a significant site listed in or determined eligible for the National Register of Historic Places, the Departmental Consulting Archeologist will consult with appropriate persons and prepare a feasible plan for mitigating of the irretrievable data that would be lost.

5. This proposal or plan would be provided to the appropriate State Historic Preservation Officer and then to the Advisory Council on Historic Preservation for concurreoce or comment.

6. Upon receipt of concurrence and completion of procedures provided for in 36 CFR Part 800, the Departmental Consulting Archeologist will arrange for the necessary investigations or documentation and will monitor the conduct of this work.

7. After excavation of pipe trenches, all open exposures would be examined by a qualified archeologist for evidence of buried archeological sites unless the geological situation precludes this possibility.

In this regard we would be happy to continue to work with you to develop a programmatic approach to this planning requirement that will enable this project to proceed ahead smoothly. The obvious next step is to present the detailed program to the Advisory Council and to achieve an agreement with them. We would be pleased to participate in those discussions.

We hope that these comments will be useful in the development of the proposal and the final environmental statement.

John E Cook

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
204 E. 5th Avenue, Room 217, Anchorage, Alaska 99501

October 9, 1975

Thomas DeRocca
Hearings Coordinator
E.I.S. Task Force
Alaska Natural Gas Transportation System
1522 K Street, Room 530
Washington, DC 20006

Dear Mr. DeRocca:

We have reviewed the State of Alaska portion of the Draft Environmental Impact Statement for the Alaska Natural Gas Transportation System. Our personnel worked with and provided information to the Task Force that prepared the statement. The Task Force that developed the environmental impact statement is commended for their efforts. The statement represents considerable effort in the collection of available basic data and in effectively presenting numerous pertinent facts throughout the report. We have the following general comments to offer:

There are a few corrections needed as noted by the Task Force in the discussion of Soils. We suggest the Task Force review and consult with the Soil Conservation Service's State Soil Scientist to assure the section is corrected for the final statement.

The discussion on re-vegetation would be strengthened if it were noted that reseeding would be done in conformance with standards and specifications; and that the standards and specifications comply with the interagency "Vegetative Guide for Alaska".

We appreciate the opportunity of attending the hearings and to comment.

Sincerely,

Weymeth E. Long
State Conservationist

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D. C. 20250

OCT 1 7 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, O. C. 20240

Dear Mr. Koenings:

In response to your letter of June 19, 1975, we have reviewed the draft environmental impact statement entitled, "Alaska Natural Gas Transportation System." This statement was prepared in seven parts consisting of a total of 17 volumes and contains extensive descriptions and discussions of the probable impacts of construction of a pipeline system to convey natural gas from Alaska to the selected points in the lower 48 states. Our comments on this statement are included as an enclosure to this letter. Thank you for providing us the opportunity to review this draft impact statement.

Sincerely,

R. M. Oavis
Administrator

Enclosure

Comments on Alaska Natural Gas Transportation System

1. Section 2. (Description of the Environment)

There appears to be a general lack of uniformity in the descriptive material for the various proposed pipeline segments. Soils descriptions are particularly weak for the Alaskan and Canadian segments. We suggest that the technical soils information be strengthened in the Canadian and West Coast segments and that terminology be simplified to layman's terms.

The vegetation descriptions also appear to be difficult to understand because different systems of classification are used in the various segments. We suggest that a uniform approach to vegetation description be used to make these sections more understandable.

2. Section 3. (Environmental Impacts)

Most impact sections appear to represent general estimates of impacts instead of being specific. We recognize that because of the nature of the applicant's proposal, much of the mitigation is conditional. We are particularly concerned about anticipated crop losses at a time of world food shortages. Without proper replacement of topsoil and disposal of excess subsoils, significant crop losses may continue for many years on portions of the pipeline right-of-way. The Soil Conservation Service strongly recommends that adequate assurances be given that agricultural land will be restored to full production after installation of the pipeline.

In support of this same objective, we believe the EIS should discuss in detail the practices and procedures that will be used to assure adequate restoration of privately-owned lands and prevention of erosion during the construction-restoration period.

3. Section 4. (Mitigating Measures)

Since the proposed mitigating measures are part of the proposed project, we suggest that consideration be given to including them in Section 1 (Descriptions of Project). If mitigating measures are to be a separate section, we suggest that they precede the section describing impacts, since they are an important factor in determining actual net impacts.

We endorse the suggested proposal by the Department of Interior that teams of local technicians assist in the final route location (overview pages 437-438). There is a great deal of site specific information at the local level that could be used to minimize environmental impacts and make mitigation more effective.

4. Section 8 (Alternative Routes)

There appears to be a lack of uniformity in the treatment of alternative routes. While the subject is covered in great depth in the Alaska segment (1100 pages) and Canadian segment (500 pages), it is treated very lightly in the west coast segment. We suggest that the treatment of west coast alternative routes be strengthened. We also suggest that a map of the entire system showing the relationship of segment alternatives to each other be included to help the reader in understanding the relative merits of the alternative routes.

5. Overview

Because of the large volume of information contained in the total draft EIS, most readers will probably limit their attention to the overview section. For this reason, we recommend that this section be strengthened. In particular, a more detailed treatment of impacts and alternatives is recommended. More illustrations of the total system would improve the overview. It would also be desirable if sentences could be included in the overview summary explaining why each discussed energy alternative should not be selected in place of the gas pipeline (pages 546 & 548). This is done for some alternatives (such as petroleum and long term energy sources) but is not done for synthetic gas and oil (page 547) or nuclear power (page 549).

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Washington, D. C. 20250

8420

OCT 8 1975

EIS Task Force
Alaska Natural Gas Transportation
System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D. C. 20240

Dear Sir:

The purpose of this letter is to furnish comments on the Alaska Natural Gas Transportation System Draft Environmental Statement of June 1975 as a single alternative for transporting natural gas to the "lower 48." Comments are basically confined to Part I and IV of the Draft Statement. Time has limited our being able to comment in depth or to make an analysis of the entire report. It is assumed that editorial changes will be made for the final report.

We appreciated the opportunity to furnish information on National Forest lands for the Draft Statement and to have Forest Service personnel participate on interagency teams during the report's preparation. In the preparation of the final ES, do not hesitate to ask for additional resource data desired relative to National Forest System lands.

Enclosed, in addition to these several remarks, are specific comments as they pertain to the different sections of the report. Also enclosed are suggested stipulations that should be considered for inclusion in any possible permit issuance.

Upon review of the proposed action, several concerns were raised. The basic justification for the project is to furnish gas supplies to the lower 48 States. There does not appear to be any evident benefit assessment or related cost summaries for the project proposals and their related alternatives.

Within the report, resource and environmental information is often in general terms. References made to environmental values should be quantified when possible. The environmental and resource descriptions do not fully cover the areas involved by suggested alternate line locations and minor alignment changes. Equal information should be displayed for all areas discussed to allow making equitable comparisons.

The environmental impact section does a good job of recognizing the multitude of impacts that are inflicted by the proposed project. It is suggested that additional quantification of impacts be made if such information is available.

As recommended within the mitigation section of the report, agency and interdisciplinary teams should be utilized to develop contract specifications. It is recommended that such an approach be utilized not only to develop contract specifications, but also to provide permit or easement-type stipulations. Such stipulations should not only be set forth in any granting authority, but also included either in the body of the Final ES or as an exhibit of typical requirements.

There appears to be a conflict between the mitigation measures as delineated in the Overview (Part I) and Part IV of the report. The overview indicates that the additional mitigation, geotechnical, or environmental control measures, as suggested by the Department, are not assumed active in the environmental impact analysis. It is recommended that these additional mitigation measures and developed stipulations become an active and integral portion of the statement. To only enact the proponent's mitigation proposals seems inappropriate.

Based on the information displayed and the alternatives presented, the single line alternative appears to best meet gas transportation goals. Further, if located with the alignment changes suggested in Chapter 4, delivery goals would be met and environmental impacts would be further reduced. In regard to the minor alignment change in Northern Idaho and the Moyie River area, there does not appear to be a reasonable way to avoid the upper two Moyie River crossings. Routing away from the Moyie River through Round Prairie avoids the lower six river crossings and subsequent conflicts with the lower river area.

It is recommended that the single line alternative, with minor alignment changes, be considered the best alternative of those proposed in Part IV. The minor alignment changes help minimize impacts for the Moyie River, John Day River, the Yonna Valley and the Tehena-Colusa Canal Crossing.

If the need for a gas pipeline system through the Nevada Area overweighs the single pipeline alternative, it is recommended the Stanfield alternative be used. This eliminates one of the two proposed lines between Kingsgate and Stanfield. This alternative involves one larger line north of Stanfield and eliminates construction of 277 miles of pipeline. Located along suggested minor alignment changes, it avoids impacting the lower Moyie River, the Umatilla National Forest relocation, the Umatilla Indian Reservation, and spawning areas in the Umatilla River. Reduced environmental impacts, along with reduced construction costs, are presented in this alternative. Other immediate distribution advantages may be available to the Northwest Pipeline Company.

It is realized that other gas transmission alternatives are being studied and may be viable, e.g., LNG system. Based on the material available and National Forest System resources values, we cannot recommend major gas pipeline route changes or alternatives between Kingsgate and the San Francisco-Los Angeles areas.

Sincerely,

R Max Peterson

Deputy Chief

Enclosures

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-1

REPLY TO: 8420 Other Agencies Environmental Statements (2300) SEP 26 1975

SUBJECT: Draft Environmental Impact Statement - Alaska Natural Gas Transportation System

TO: Chief

The attached memorandum was prepared by District Ranger Sam Halvorsen, Custer National Forest, after reviewing the Bureau of Land Management's draft environmental impact statement. The Northern Border states pipeline will pass through a portion of the Little Missouri National Grasslands.

This same information was given to the Bureau of Land Management team leader, Al Leonard, earlier this year. However, it is still valid and should be considered in our response to the Bureau of Land Management's draft environmental impact statement.

Keith M Thompson
for STEVE YURICH
Regional Forester

Attachment

cc: Custer National Forest
Dick Bryant - R-6
Recreation and Lands
Programs and Legislation (WO)

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
D-8

REPLY TO: 8420 Other Agencies Environmental Statements (2720) September 19, 1975

SUBJECT: Comments on Part V, Northern Border, EIS Alaska Natural Gas Transportation System

TO: U. S. Department of Interior
Director
Office of Environmental Project Review
Washington, D. C. 20240

The Border States Pipeline from Saskatchewan to Pennsylvania will pass through McKenzie County, North Dakota, and specifically cross 1.7 miles of U. S. Forest Service lands. The area is in Sections 15, 22, 23, and 24 in T-148-N, R-98-W or approximately 14 miles southeast of Watford City, North Dakota. The following comments are based on the EIS for the Badlands Unit of the Little Missouri National Grasslands which was sent to CEQ on September 19, 1974.

The present alignment will cross several different types of land, including the Upland Grasslands Ecosystem, the Rolling Grasslands Ecosystem and the Upland Breaks Ecosystem. The Upland Grasslands is an area interspersced with steep sided, rounded hills composed of local bedrock, usually friable sandstones and shales. The soils are clayey and sandy loams with approximately 30% rock outcrops. The ecosystem suitability chart rates the area as medium compatibility with the physical, biotitic and other characteristics. Particular attention should be paid to mass failure hazard, water erosion and wind erosion during alignment considerations. -

The Rolling Grasslands are gently sloping divides, ridges and hills with shallow clayey and sandy soils. Glacial remains are evident on the surface. Pipeline construction is compatible with the physical aspects of the ecosystem but rates medium suitability with the biotitic and other sections. Items of particular interest are threatened or unique species and big and small game.

The Upland Breaks are steep, vertical faces of bedrock, generally shales, poorly cemented sandstones and numerous thin lignite beds. These areas have a high degree of susceptibility to earth flows and slumps. Soils are shallow sandy and clayey loams which lie on weathered bedrock. The ecosystem suitability is low for all areas within this unit. Areas of interest include mass failure hazard, slopes between 40 and 70°, and visual attractiveness.

A slightly altered alignment through this area in T-148-N, R-98-W could minimize or eliminate potential problem areas. We suggested that a route be located on the south side of the existing county road between Sections 21 through 24 to reduce the area in the Upland Grasslands and eliminate crossing the Upland Breaks Ecosystem. Rough Creek can be crossed in the SE¼ of Section 16 at the present county road crossing.

This alignment will allow easier installation, better access for maintenance work, and the least amount of environmental destruction.

Sam Halverson
SAM D. HALVERSON
District Ranger

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

R-5

REPLY TO: 8420 Review of Other Agencies Environmental Statements September 5, 1975
(2700)

SUBJECT: Draft Environmental Statement - Alaska Natural Gas Transportation System

TO: Regional Forester - Region 6
Atten: Dick Bryant, Watershed Mgt.
Bob Sipe

Reference the W.O. memorandum of August 7, 1975, on the above subject. We appreciate Dick Bryant bringing us a copy of the draft E.I.S. for our review and comments. Our comments cover the proposed West Coast (San Francisco Leg and Los Angeles Leg) as they affect the Forests in this Region.

I. San Francisco (Antioch) Leg (Oregon-California Stateline to Antioch passing through the Modoc, Shasta and Lassen Forests), PG&E.

1. Part IV, Vol. 1, Sec. 1.1.4

   extension of Right-of-Way beyond 100' was not covered by original analysis. This certainly would have an impact on some areas. It needs a paragraph in the E.I.S. stating these proposed extensions of R/W will be coordinated on the ground with the land management agency involved!

2. (4.1.4 Mitigating Measures in the Proposed Actions (SF) & 4.1.5 (LA)).

   All through the E.I.S. the Mitigating measures are addressed by "Should be done, etc." The word "Should" needs to be replaced with the word "Will" or the E.I.S. will simply become good advice. As land managers we should be saying "This is what will be happening to the resources if the pipeline proposal is ok'd and this will be required to mitigate the adverse effects". If the public and land management agencies buy the E.I.S., then the E.I.S. becomes a document from which to write the license or permit.

II. Los Angeles (Cajon) Leg (Nevada-California Stateline to near Adelanto crossing the Inyo National Forest). Southern California Gas Company.

We cannot find anywhere in the report the fact that Southern

California Gas Company has applied for a right-of-way which affects the last 16 miles of this leg and has been withdrawn from the application filed with Interior on November 15, 1974. (See copy of attached application). The proposed LA Leg pipeline would now appear to terminate near Adelant (Adelanto Compressor Station) and not near Cajon, and therefore does not affect the San Bernardino Forest. Our comments apply only to the proposed route (applicant's prefered route) crossing of Inyo Forest.

1. Desert country was not included as high wind erosion potential. Portion on Inyo N.F. is and should be covered. Part IV, Vol. 4, pg 1617 & 1618, Section 3.1.5.2.

2. Backfilling of trench. Should require compacting on Inyo because of the wind erosion. Any mound left would soon blow away.

3. The Inyo proposed alternate route should be developed to show its apparent advantage over the proposed route. Part IV, Vol. 4, pg. 1928 - 1930., Section 4.1.5.4.

4. Statement weak throughout. Says should do --- not shall do. Not strong enough in Sections 4.1.4 and 4.1.5.

5. Needs clarification on why the "cold desert" was separated from the "hot desert" at Aberdeen. Part IV, Vol.3, pg. 1261, Section 2.1.5.6-2.

6. Only says alternate routes should be studied. Should say they will be studied.

7. Does not mention the wild horses and burros on the Inyo National Forest.
   Part IV, Vol. 3, pg. 1286, Section 2.1.5.7.
   Part IV, Vol. 4, pg. 1681.

8. Big Game migration routes, Inyo National Forest. Deer in the White Mountains. Part IV, Vol. 4, pg. 1676, Section 3.1.5.7.

9. Does not take a stand whether or not the pipe should be removed after abandonment. Only discusses some additional impacts. Section 1.1.5.8.

10. In Owens Valley but not on the Inyo National Forest. No mention of crossing the L.A. aqueduct (2 times).
   Part IV, Vol. 3, pg. 966, Section 1.1.5.4.

11. Does not definitely specify whether communities along route will receive any of the gas.
   Part IV, Vol. 3, pg. 1379, Section 2.1.5.9.

One weakness we note in the draft E.I.S. is that it fails to discuss any route other than the "preferred routes". This is particularly true on the Kingsgate-Los Angeles Alternative.

Also, the E.I.S. appears weak in discussing the combined Kingsgate to Los Angeles via Antioch (Part VI, Vol. 1, pg. 419). Figure B.1.3 (Map showing location of West Coast pipeline routes) could impact the Angeles, Los Padres, Sequoia or San Bernardino Forests.

We also feel the final E.I.S. needs to have the stipulations included. These are the stipulations (Exhibit "D") which you submitted to the Chief with your letter of December 23, 1974, (2770 Licenses) and were reviewed and/or developed by representatives of Regions 1, 5 and 6.

[illegible]

DOUGLAS R. LEISZ
Regional Forester

Enclosure

Comments By Subject
on
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
Draft Environmental Impact Statement
Part I and IV

Comments as numbered relate to subject groupings as outlined in Draft EIS.

1. Description of the Proposed Action.

How acreage figures indicated were derived is not clear. Since there are existing gas pipelines, rights-of-way with variable widths on different ownerships, and joint use possibilities, it is recommended the premise of how acreage needs were computed be displayed. Type of ownership could be further delineated in the report. The Los Angeles pipeline does not show needed rights-of-way by ownership for the proposed project. Only the San Francisco line shows some breakdown by Federal ownership. Comparative acreages would help show the effect on land ownership whether private, State, or Federal properties.

There is no indication of how controls over the proposed project would be affected by the numerous Federal authorizations. It is assumed that grant instrument stipulations based on needed mitigation measures will become part of the permits, easements, etc., that would be issued (reference sections 1.1.4.9 and 1.1.5.9).

Under function, purpose, or project justification of the pipeline there is no indication of any cost benefit analysis or related cost comparison summaries that might be available in other portions of the report. It is suggested that at least a cost comparison be made of the proposed versus alternate transmission systems.

We cannot find anywhere in the report the fact that Southern California Gas

Company has applied for a right-of-way which affects the last 16 miles of the Los Angeles leg nor that such has been withdrawn from the application filed with Interior on November 15, 1974. The proposed Los Angeles leg of the pipeline would now appear to terminate before it reaches Cajon. As such it would not affect the San Bernadino Forest.

2. Description of the Environment.

The premise under which acreage figures were computed should be displayed. This would help clarify how and what acreages are involved, including private.

Throughout the section, general value terms are utilized. Additional quantification of values would help define the magnitude of the particular resource being described.

The great soil group classification shown in Part IV pages 184 and 1145 should be reviewed. In reference to figure 2.1.5.4-2 the 1969 print of the SCS soil distribution map (sheet 86 published by USGS) indicates the soil group is Cryandept rather than Arigixaroll.

In regard to development of the landscape sensitivity ratings, the procedures found in National Forest Landscape Management Volume 2, Chapter 1 may be more applicable. It appears as if the criteria developed was based on the original visual management system rather than the most current one. This in turn may modify some of the ratings made.

The desert country was not included under high wind erosion potential on the Inyo National Forest. Subsequently, applicable mitigation measures including compaction of backfill materials should be required. Because of wind erosion any mounds left would soon be blown away unless stabilized.

Within the mitigation measure section, minor alignment changes are discussed. The descriptive environmental section does not fully cover some of the resources in the suggested realignment areas. Technical data for the Moyie River - Round Prairie area of North Idaho is available through the planning

effort we are making in regard to the Moyie Wild and Scenic River study and the adjacent unit area plan.

There appears to be an error in the Bonner County tax revenue figure found on pages IV - 851, and IV - 1402.

There needs to be clarification on why the "cold desert" was separated from the "hot desert" at Aberdeen (ref. Part IV, IV - 1261).

The wild horse and burros on the Inyo National Forest are not mentioned in Part IV of the draft.

In the Owens Valley area the possibility of crossing the Los Angeles aqueduct twice is not mentioned.

Some of the resource data base available between the two proposed lines where they parallel each other seems to vary. They should be correlated as to presentation or sources. For example, part of the economic data present differs. One report used a 1974 source while the other used material with a 1967 date.

3. Environmental Impacts

Good recognition in regard to the multitude of resource impacts has been made. It is recognized many cannot be easily quantified and the relative significance in many cases can only be judgemental. If additional quantification is available, it would help clarify the information presented.

Possible effects of Big Game migration routes on the Inyo National Forest and deer in the White mountains should be included in the report (ref. Sec. 3.1.5.7).

With the multiple impacts that can be expected the importance of making sure the mitigation of impacts is visible in the construction process cannot be over-emphasized. Adequate mitigative controls should be visible and of everyday concern.

4. Mitigation Measures.

Within the draft EIS the analysis of mitigation measures the use of agency and interdisciplinary teams for site-plan and contract specification development is recommended. It is recommended that agency and interdisciplinary teams be utilized not only for contract or site plan specification development, but to develop needed requirements in the form of stipulations to be included in any grant documents. Such stipulations should be set forth not only in any granting authority but should be included as a portion of the final Environmental Impact Statement. This would help display how mitigation measures would be used as typical land use requirements.

Draft stipulations as to how they could pertain to National Forest lands are enclosed for your consideration. It may be the term Licensee should more appropriately be Permittee or Grantee. Draft stipulations follow stipulation outline as used in Trans-Alaska Pipeline.

The need for resource people to be involved in on-the-ground site-planning and contract requirement development points out the need for their involvement during the actual construction process to help insure minimizing impact damage. In addition, due to the multitude of possible impacts at least equal mitigation efforts should be used on private as well as public lands. For example, topsoil conservation and restoration should be an overall mitigation method and not applied just where an individual landowner might think to require such.

The lack of resource information for the minor alignment areas makes it difficult to compare impacts and resource values between the proposed routing and suggested changes. This information along with additional impact

quantification would be very helpful.

It is difficult to understand the statement in the Overview (Part I page I-416 concerning additional mitigation measures. This indicates "the latter group of measures" (additional mitigating geotechnical or environmental control measures as suggested by the Department) . . . "are not assumed active in the environmental impact analysis." The enactment of only the applicant's proposed mitigating measures seems inappropriate. There are variations between what each applicant proposes. Stipulations or requirements developed by an interdisciplinary approach could be used and made a requirement of any authority granted for construction. These additional mitigation measures along with stipulations should become an active and integral part of the EIS. Otherwise stated conclusions reach in section five are not applicable. The government has a greater fundamental responsibility than the Applicants to see that explicit environmental and technical mitigation measures, requirements and stipulations are developed to alleviate avoidable impacts (reference III-1133).

5. Adverse Effects Which Cannot Be Avoided.

There appears to be conflict between Part I and other parts of the report as to what constitutes unavoidable effects. The Overview (Part I) indicates those residual effects where only the applicants proposals were enacted. Other Parts seem to vary as to whether or not all mitigating measures are utilized.

It is recommended that this section display what the public could expect to encounter if the line was constructed with anticipated construction controls. Controls should include not only the applicants, but also those that would be applied by different governmental entitites under existing laws and regulations.

Alternatives

The sections on alternatives are somewhat confusing as to the three obvious alternatives available to the Secretary of Interior. There is no real discussion of deferring a decision to consider redesign, rerouting, alignment changes, or alternate systems.

The alternatives identified in Part IV are only really comparable in relation to their basic pipeline lengths. The alternatives are not presented in such a way as to permit independent equal evaluation with what the applicants propose. The environmental descriptions are not adequate to allow true evaluation quantitatively and qualitatively between benefits, costs, and environmental risks for each of the alternatives. Comparable information should be presented to help make the best decision regarding gas transmission.

In regard to the information presented in Part IV, we recommend the alternative of:

One large combined pipeline following minor alignment changes from Kingsgate to Los Angeles via the San Francisco area.

- Such an alternative would deliver needed gas supplies to Stanfield, Cajon, and Antioch.
- Require less pipeline, and reduce impacts.
- Allow, if needed, later expansion of a system via Nevada to Southern California.
- Utilize an existing energy corridor.
- The combined alternative should utilize minor alignment changes as discussed in Part IV for the Moyie River realignment through Round Prairie, the John Day, Yonna Valley, and Tehana-Colusa Canal crossing.
- Requires redesign of the pipeline to accommodate proposed gas transmission needs of the two applicants (PG & T, PGE, and ITA(A), So Cal), along with working agreements.

Second priority for a line from Kingsgate southward should be given to a combined larger line from Kingsgate to Stanfield (277 miles). From Stanfield south, as needed, additional pipelines could be constructed. This alternative

- Eliminates 277 miles of dual system.
- Reduces impacts and overall construction.
- Allows ITA(A) the possibility of delaying construction south of Stanfield.
- Better utilizes existing energy corridors.
- Avoids the Umatilla National Forest relocation, the Umatilla Indian Reservation, and spawning areas in the Umatilla River.
- The combined alternative should utilize the recommended alignment

changes discussed in the draft EIS, Part IV under Mitigation.

- Demands the redesign of the pipeline system from Kingsgate to Stanfield and would require working agreements between the applicants.

It is acknowledged that other transmission alternatives may be viable (e.g., LNG system). However, at this time we cannot recommend other routes or alternatives in the lower 48 states between Kingsgate and the San Francisco-Los Angeles areas.

Other alternative methods of lessening environmental impacts may be available. The question of why is additional clearing along existing pipelines needed has been presented to the reviewers. By constructing in the opposite direction from the original construction, it would appear only the original clearing width would be needed. Such presumes that equipment could operate over the existing pipeline.

If the Round Prairie minor alignment change in Northern Idaho is utilized, its location should be coordinated with possible rerouting of U.S. highway 95. It is realized in utilizing the Round Prairie alignment there is probably no feasible way to avoid the upper two Moyie River crossings. However, as indicated in the National Wild and Scenic Rivers System evaluation guidelines "New public utility transmission lines, gas lines, water lines, etc., in river areas being considered for inclusion in the National System are discouraged. However, where no reasonable alternative exists, additional or new facilities should be restricted to existing rights of way." (underlining added). The Round Prairie realignment appears to be a reasonable alternative.

In regard to displaying alternatives, especially in the Overview, a matrix display of the effects of each alternative against major criteria groups would help in their evaluation.

The National System of Transportation and Utility Corridor Study by Department of Interior dated July 1, 1975, stated that with present data it would be difficult to establish a utility corridor. This may be true, but the opportunity to combine another gas pipeline in an existing energy corridor exists today. We should be taking advantage of combining utilities in single corridors when possible. We cannot favor impacting the environment with additional corridors where adequate need is not displayed.

A recommendation contained in the Corridor Study states: "That during the period in which the information base and evaluation of energy transmittal projects are being developed, for lands in the Western States, Federal land managing agencies be directed to grant individual right-of-way, only after making a determination of the feasibility and practicality of combining Individual rights-of-way into joint use on or across Federal Lands. Such should apply to these proposals and be contained in the final EIS.

This position is further supported by the study indicating that a 57 percent savings in new surface disturbance for two 48-inch pipeline can be expected if built adjacent to another pipeline in normal soil.

DEPARTMENT OF THE NAVY
NAVAL WEAPONS CENTER
CHINA LAKE, CALIFORNIA 93555

IN REPLY REFER TO:
70305/JRO:rh
Serial 3857
OCT 2 1975

The Honorable Mr. John C. Whitaker
Acting Secretary,
U.S. Department of the Interior
Washington, DC 20240

Dear Mr. Secretary:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) "Alaska Natural Gas Transportation System".

As delineated in the EIS (Figure 1.1.5.2-2, p. IV-941) the proposed pipeline runs for thirteen miles through and partially transects the Naval Weapons Center's Air Weapons Range, a fully-instrumented range.

Main functions of the Air Weapons Range are tests and evaluation of fire control and bombing systems; guided weapons; air-to-surface missiles; and unguided bombs against fixed and moving targets. Additional uses are for air-to-surface gunnery, target rocket firings and parachute flare tests.

Targets used at the Air Weapons Range include fire bomb and cluster weapon targets as well as avionic, moving, and tactical target areas. All such target areas are contaminated with high explosive materials. The range also includes a high-velocity test track, 10,000 feet in length, that would be intersected by the proposed pipeline route.

Consideration must be given several aspects in assessing the impact of the proposed route on one of the Navy's principal research and development, test, and evaluation laboratories. Both access and egress of construction personnel and equipment would be subject to stringent restrictions to avoid interference with the operations of the Air Weapons Range and to assure safety of personnel. Similar constrictions would apply to any subsequent maintenance operations.

The prudence of locating a gas pipeline within a test range where quantities of high explosives are routinely used is questionable.

Further, the continuous contamination from the tests involving high explosive material would conceivably constitute a hazard to construction personnel or equipment from which the Naval Weapons Center would require complete indemnity. Reliable sanitation of the target areas would be most difficult since the location of high explosive material is not accurately known.

70305/JRO:rh
Serial 5839
OCT 2 1975

This Command seriously urges personnel of the Bureau of Land Management involved in planning an overland route for the proposed gas pipeline in Indian Wells Valley to consider the region east of U.S. Highway 395 where a de facto utility corridor is already established for line power transmission facilities. From the viewpoint of conserving and managing desert resource lands, the concept of utility corridors offers a means whereby long-range management of desert resources may best be effected.

I shall appreciate being kept up-to-date on the outcome of your public hearings on this subject and on any future developments that involve the Naval Weapons Center and adjacent areas with respect to plans for an overland gas pipeline.

Sincerely,

R G Freeman
R. G. FREEMAN, III
Rear Admiral, USN
Commander

Copy to:
Chief of Naval Material, Washington, DC
Western Division, Naval Facilities Engineering
  Command, San Bruno, CA
Mr. Robert E. Metzger, Planning Coordination Chief
  Bureau of Land Management, California State Offices
EIS Task Force, Alaska Natural Gas Transportation System
  Bureau of Land Management, Washington, DC 20240

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20201

NOV 10 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation
  System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

We have reviewed the draft Environmental Impact Statement concerning the Alaska Natural Gas Transportation System. On the basis of our review, we offer the following comments:

1. Page I-35: We note that the Kingsgate to San Francisco portion of the pipeline does not have to meet the API specifications for high test pipeline. Why?

2. Have the environmental impacts pertaining to the cut down of the moderately deep V-shaped valleys in Modoc Plateau been analyzed?

3. Page I-368: What are the estimates for the magnitude of crop losses resulting from the loss of natural soil productivity on 14,000 acres?

4. We believe the stack silencers referred to on page I-404 should be mandatory. In addition, the maximum use of silencers should be encouraged for the compressor stations to mitigate adverse noise affects upon human populations.

5. Page I-403: The DEIS states that sound levels may range from 68-95 dBA when measured at 50 feet. Are these levels to be taken for 8 hour exposures or temporary peaks? Elsewhere in the statement, the 8 hour standard for occupational exposure at 90 dBA is discussed along with the fact that it is possible that OSHA is considering lowering the standard. Will pipeline employees be exposed to sound levels in excess of the proposed or existing OSHA standards?

6. We strongly concur that the "Applicants should show by analysis that their design is satisfactory based on worst-case external loading conditions on the pipe in both the pressurized and unpressurized states." (p. I-411)

7. Page I-509: How will waste, both solid and human, be collected and/or disposed of, particularly in construction sites along pipeline routes?

8. The applicant should be required to describe his project abandonment procedures to ensure that major safety hazards to humans have been analyzed.

9. The factors of traffic safety and road hazards involved in the movement of heavy equipment and materials through the extreme weather conditions on primitive roads are not adequately addressed. These adverse conditions are also likely to increase occupational safety hazards in all areas of pipeline construction.

10. Page V-1170 indicates that the pipeline right of way will traverse public recreation land, parks, and in some cases, proceed through camping areas. Although the DEIS states that such areas will be closed to the public, it is unclear whether the total public area or just the rights of way will be closed to the public. Should it be the latter, it would appear that large machinery, open trenches, unlaid pipe, etc., will be present in the area for a period of time and create potential safety hazards. Safety, from the standpoint of protecting the public, needs to be discussed more fully in the document.

11. In the general discussion of health, no mention is made of the provisions to be made for the health care of pipeline employees or of the public health aspects of the temporary work camps to be used in Alaska and northern Canada. We believe a comprehensive employee health and safety plan is needed that will cover not only work-related aspects of health, but all the health needs of the employee, including problems associated with acclimation to the extreme climate.

12. The proposed system will, if constructed as described, have serious and irreversible impacts on many irreplaceable natural resources, as well as upon the socio-economic status of many small communities. While it is perhaps true as stated on p. I-473 that most of the socio-economic impacts cannot be avoided over the short term, we nevertheless urge the applicant to work closely with all governmental bodies through whose jurisdictions the pipeline will pass to ensure an early and continuing exchange of project development planning data and projections. This exchange will enable local communities to anticipate these impacts and to plan ways to prevent or mitigate them before they occur, rather than attempting to deal with them after they occur.

    Although the statement identifies the potential impacts on the local health, medical, educational and other public services, it does not offer any suggestions for mitigation. One of the problems with a project of this magnitude is the "temporary" nature of the personnel in any location. We urge the applicant to give special emphasis to the hiring and training of local workers, wherever possible, to minimize the socio-economic impact of transient labor.

    Little attention is given to discussing possible disruptions and overloads on local public services. It would seem appropriate that the applicant initiate some early planning efforts with the various public officials responsible for providing such service in order to ensure a minimum of disruption. There may be adequate need to provide mobile health and medical facilities to accomodate the construction crews. This is particularly apropos to the many small communities in Nevada and Eastern California which even now have difficulty providing these services to the stable population.

13. The DEIS acknowledges the potentially severe impacts on water quality and quantity that may result from (1) the pipeline construction due to the large volumes of water required for hydrostatic testing of the pipeline, (2) the indiscriminate withdrawal of large volumes of water from bodies which may not have the capacity to recover, (3) the release of large volumes of water into dry stream channels, and (4) from erosion associated with construction sites. Since water supply in the

Artic is a serious problem, the most extensive methods of water quality control are warranted to minimize the adverse impacts on water resources.

14. We urge that the most sophisticated equipment on the market be utilized by the applicant to detect and provide instant notification of any gas leakage in the pipeline. It is assumed that the gas will be odorized before transmission as an aid in the detection of leaks.

15. In describing the construction of the project, the document addresses borrow pits, changing patterns of drainage, creation of lagoons for sewage treatment, etc. Such areas are possible sources for the breeding of disease bearing insects or animals. We feel there needs to be a discussion as to the proper use of techniques for grading, seeding and maintenance of areas in and around compressor plants, pumping stations and micro relay stations to provide adequate vector control for such insects.

Thank you for the opportunity to review the document.

Sincerely,

Charles Custard

Charles Custard
Director
Office of Environmental Affairs

United States Department of the Interior
BUREAU OF RECLAMATION
WASHINGTON, D.C. 20240

IN REPLY REFER TO: 150
774.

NOV 7 1975

Memorandum

To: Project Manager, EIS Task Force
Alaska Natural Gas Transportation System, Bureau of Land Management (302)

From: Commissioner of Reclamation

Subject: Review of Draft Environmental Statement on Alaska Natural Gas Transportation System (DES 75/44)

We have reviewed the subject statement and have the following comments and observations.

In order for you to evaluate the effects of the proposed natural gas pipeline on Bureau of Reclamation lands, the following information has been provided by our regional offices concerning the west coast and northern border routes.

The proposed west coast routes would cross 12 irrigation project areas in Idaho, Washington, and Oregon. The ditch and gas pipeline would interfere with subsurface drains and gravity flow irrigation. Construction activity would disrupt cropping practices. Cropland production losses could be lessened by scheduling construction after the normal harvest time.

The following existing and proposed projects would be impacted by the construction of the pipeline:

Proposed Projects

Walla Walla Project, Washington

Marcus Whitman Division--West pipeline would traverse the project in the vicinity of the proposed Wallula Relift Pumping Plant site and the proposed West Vansycle Relift Pumping Plant and the Low Wallula-Cardena Canal site. About 36 acres of potential agricultural lands would be taken out of production.

Milton-Freewater Division--East pipeline would cross the proposed Joe West Reservoir site and could impinge upon project lands near the Oregon-Washington border.

Touchet Division--East pipeline would cross division lands near the east line of Township 9 N., R. 36 E., WM, and would take about 1 acre of land out of production.

Umatilla Project, Oregon--West pipeline would cross the proposed Cold Springs Canal carrying Columbia River water for storage in Cold Springs Reservoir. The east line would cross the Umatilla River about 1 mile below Ryan damsite.

Columbia South Side Project, Washington--West pipeline would cross the southern portion of the Sand Hollow area.

Existing or Under Construction Projects

Rathdrum Prairie, East Greenacres Unit, Idaho--Enters project area in NE¼ section 11, T. 51 N., R. 5 W., BM, thence diagonally across sections 11, 15, 16, 21, 20, and 29, crossing 7 pipelines and taking about 36 acres out of production.

Spokane Valley Project, Washington--T. 25 N., R. 45 E., WM, section 16, NE¼ to SW¼, section 21, NW¼ to NW¼, section 20, NE¼ to SE¼, crossing 4 pipelines and taking about 7 acres out of production.

Umatilla Project, Oregon--West line would cross the existing system, including Furnish Canal, Cold Springs Feeder Canal, and Westland Canal and would disturb existing productive lands.

Baker Project, Oregon--East line would traverse the project area from a point north of Lilley Pumping Plant through the town of Baker existing on the south near the Union Pacific Railroad line, and would take project lands out of production.

Burnt River Project, Oregon--East line follows Alder Creek and Burnt River through project lands and facilities in Durkee Valley.

Vale Project, Oregon--East line crosses the Vale Project area immediately west of Little Valley.

The pipeline would cross existing canal distribution systems of the following districts:

Crook County Improvement District No. 1, Oregon (Lone Pine)
Central Oregon Irrigation District, Oregon
Arnold Irrigation District, Oregon
Deschutes Irrigation District, North Unit, Oregon

The proposed pipeline would also include two major crossings at the Williamson River and at the Sprague River in Oregon. These two rivers are main tributaries to Upper Klamath Lake which is characterized as a highly eutrophic lake with no summer thermal stratification. Bottom sediments in the lake have a high oxygen demand and nutrient materials are made available to the water mass almost daily during the ice-free period because of resuspension of bottom sediments. Wind velocities of from 2 to 5 miles per hour can cause sufficient water movement to keep some materials in flux. According to the EIS, pipeline construction crossings at the Williamson and Sprague Rivers would have a "moderate" impact on channel erosion, sedimentation, and turbidity during the 1 to 3 months construction period. The Upper Klamath Lake conditions could or could not be affected during the construction of crossings; however, we feel the unique characteristics of this lake should be recognized. Prolonged increases in suspended-sediment concentration could cause an increase in biochemical oxygen demand and a lowering of dissolved oxygen concentration. Depending on the prevailing conditions, additional suspended sediment (other than natural) could increase the BOD and jeopardize aquatic life in the lake.

The Bureau of Reclamation is in the process of identifying potential dam and storage sites along the Sprague and Williamson Rivers for our Butte Valley-Upper Klamath River Basin Study. Based on appraisal data, the following sites were previously considered: Braymill site, Sprague River, T. 34 S., R. 7 E., S. 25; S'Ocholis site, Sprague River T. 25 S., R. 10 E., S. 4; Sprague River site, Sprague River, T. 36 S., R. 11½ E., S. 11; Yamsay site, Williamson River, T. 31 S., R. 10 E., S. 24; and Collier site, Williamson River, T. 34 S., R. 7 E., S. 34. All of these sites are within the proximity of the proposed pipeline, but were not considered for development at the time (1971) because of various unfavorable conditions. The current Butte Valley Study is scheduled for completion by fiscal year 1979.

The following comments pertain to the northern border pipeline route.

The project location map on page V022 shows the pipeline passing at least 10 to 15 miles north of Aberdeen, South Dakota. The text on page V024 (there is no V023) describes it as 3 miles south of Aberdeen. If the latter is correct, this would make for a substantial jog in the line shown on the map. Either route would cross the proposed West Main Canal and irrigable lands of the Oahe Unit. The unit is mentioned subsequently in the DES, but in the context of possible future development not as an affected entity under construction.

The reference to our two irrigation projects on page V799 appears to be correct in content.

On page V835 the Oahe Project is referred to as a "proposed irrigation project." This should be changed to "the Oahe Unit, a project authorized by Congress and now under initial stages of construction to irrigate 190,000 acres."

The possible alternative of relocating the pipeline route about one-third mile to the east to minimize impacts on the Buford-Trenton Project was not mentioned on page V982. Also, no mention was made of the need to bury the pipe a minimum of 4 feet below the gradeline of the open drains.

The wording at the bottom of page V982 and top of the following page should be changed to reflect start of Oahe Unit construction in 1974. On page V983, second paragraph and third line, "State" should be changed to "Stage."

G G Stamm

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 18 1975

OFFICE OF THE
ADMINISTRATOR

Dear Mr. Secretary:

Enclosed are the Environmental Protection Agency's comments, as transmitted to your Task Force, on the Department of the Interior's draft environmental impact statement entitled, "Alaska Natural Gas Transportation System."

We support the basic requirement of transporting Alaska gas to appropriate markets. However, in our view, the Department's environmental impact statement on the trans-Canada proposal is inadequate in presenting material relevant to determining the environmental impacts of the project. Despite its volume of descriptive material, the statement did not provide a strong analysis of the proposed project as a whole, nor did the statement set forth clearly the measures proposed by the Department to mitigate adverse environmental impacts.

We recommend that the Department consider either issuing a second draft of the statement addressing the environmental impacts of the proposed project in more specific terms or issuing a final statement and allowing 60 days for public review and comment. We also recommend that the descriptive material not required in addressing the specific environmental impacts, including the energy alternatives section, be referenced and not reproduced in the second draft or final statement.

2

We offer these remarks in a spirit of cooperation and wish you to know that we will be happy to work with the Department in any way we can. We will be pleased to discuss our comments with you or your staff.

Sincerely yours,

John Quarles

John R. Quarles, Jr.
Deputy Administrator

Honorable Thomas S. Kleppe
Secretary of the Interior
Washington, D.C. 20240

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

31 OCT 1975

OFFICE OF THE
ADMINISTRATOR

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

The Environmental Protection Agency has completed its review of the Department of Interior's draft environmental impact statement entitled, "Alaska Natural Gas Transportation System." Our specific comments are enclosed.

Our review of this impact statement reveals that an enormous amount of descriptive material was provided, however, the analysis relevant to determining the environmental impact of the proposed project, taken as a whole, is inadequate.

We agree with the Department that it is difficult to analyze any needed local pipeline routing changes without a specific pipeline routing. We have attempted to address this issue by indicating areas that we believe the pipeline should avoid in our specific comments.

We are concerned that justification for the proposed route, with respect to alternative routes, is not presented. Our specific comments question routes in North Dakota near the Little Missouri River, the dual pipeline on the West Coast, and the Arctic National Wildlife Range.

We are very concerned about the following statement made by the Department on page 20 of the Executive Highlights, and believe it would set an environmentally unsatisfactory precedent if adopted:

2

> Arctic and subarctic construction must be completed as scheduled in order to use the proposed snow/ice roads for access. Consequently, mitigation measures as proposed preclude interference with the environment and will reduce impacts. In this case mitigation is not fully effective and therefore impacts cannot be avoided. All environmental mitigation measures will be secondary to construction schedules.

The Department considers some mitigating measures inadequate in its "evaluations". EPA concurs in these findings. Additionally, we believe that the Department of the Interior should specifically include mitigating measures and stipulations in the final impact statement so that the full implication of the project can be understood. These measures and stipulations should include the following:

- Revegetation plan
- Pre-construction activities plan
- Oil and hazardous substances contingency plan
- Archaeological - historical plan
- Discussion of how mitigating measures (stipulations) would be instituted, enforced, and monitored should this project be approved.

We are concerned that the impact statement does not contain an analysis of the aggregated direct impacts of the project, considered as a system, on the environment. In addition, the impact statement does not address secondary impacts such as the effect of gas curtailment on the pipeline and vice versa or secondary usage of gas at the distribution terminals.

In accordance with our procedures for rating impact statements, we have placed this statement in category 3 (Inadequate). We recommend that the Department consider either: 1) issuing a second draft of this impact statement addressing the environmental impacts of the proposed project in more specific terms, or 2) issuing a final impact statement addressing the environmental impacts in more specific terms and allowing 60 days for public review and comment. We further recommend that the descriptive material not required in addressing the specific environmental impacts, including the energy alternatives section, be referenced and not reproduced in the second draft or final statement.

We appreciate the opportunity to comment on this proposed project.

Sincerely yours,

Rebecca W. Hanmer

Rebecca W. Hanmer
Acting Director
Office of Federal Activities

Enclosure

Environmental Protection Agency Comments
on the Department of the Interior's draft
environmental impact statement entitled,
"Alaska Natural Gas Transportation System"

TABLE OF CONTENTS

SECTION PAGE

SUMMARY OF MAJOR CONCERNS i

GENERAL 1

- Air Quality Effects 1
- Secondary Energy Development Issues 5
- Gas Distribution 5
- Spill Prevention 6
- Wetland Protection 6

ALASKA

- Air Quality 7
- Water Quality 8
- Ecological 10
- Ancillary Facilities 14
- Socio-Economic 15
- Revegetation 16
- Secondary Effects 17
- Alternatives 18
- Additional Considerations 19

WEST COAST

- Air Quality 22
- Alternatives 23
- Socio-Economic 25

NORTHERN BORDER

- Air Quality 26
- Water Quality 28
- Alternatives 32
- Mitigating Measures and Monitoring of Construction and Operations 34
- Herbicides 36
- Noise 37
- Revegetation 38
- Socio-Economic 39
- Land Use and Related Considerations 41

SUMMARY OF MAJOR CONCERNS

We are concerned that the environmental statement did not present an adequate analysis of the proposed project, taken as a whole, sufficient for determining the environmental impacts. Our major concerns are outlined below.

(a) Mitigating Measures - We concur with the Department that some of the applicants' proposed mitigating measures are inadequate, and support the Department's recommendations for additional measures. EPA has identified the need for further mitigating measures, which we believe should be specifically set forth in the environmental impact statement.

(b) Wetlands - We are concerned that wetland issues and impacts are not adequately addressed.

(c) Secondary Effects - We believe that the following issues should be more adequately addressed:

(1) Energy development
(2) Gas distribution and curtailment
(3) Socio-Economic considerations

(d) Alternatives - We believe that existing corridors should be used as much as possible. Furthermore, we question routes in the following areas:

(1) Arctic National Wildlife Range
(2) North Dakota near the Little Missouri River
(3) Dual pipeline on the West Coast

(e) Pipeline Technology - We agree with the Department's evaluation that pipeline design criteria for the arctic and subarctic conditions are not considered adequate. We believe that testing a prototype design should be considered. Additionally, we support the Department's evaluation that the following design concepts are not adequately addressed:

Pipeline safety factors
Fracture toughness
Seasonal maintenance
Frost heave
Mass wasting
River crossing integrity
Leak detection
Effects of leaking gas

Emergency plans
Seismic monitoring
Schedules of construction
Controlled gas chillers
Automatic control features
Cathodic protection

Subsurface soil information

Properties of gas
Operating plans
Gas pressure/temperature

General

The Department has touched on virtually all of the environmental impacts in a broad sense, but has failed to present the specific information required to assess these impacts. In some cases, a limited discussion of the impacts has been qualified with statements that the applicant failed to submit this data or that because a specific route was not designated, specific environmental impacts could not be determined. In our view, all data, studies, testing, and other inputs sufficient for determining more specific significant environmental impacts of this project, should be obtained by the Department before proceeding further with the environmental impact statement process.

One of the major questions left unresolved is the distribution of gas to areas serviced by the consortium membership. Location points where Alaskan Gas will be removed by a consortium member are given. However, the areas serviced and long range plans of these members should be provided. Major induced impacts may result from the availability of this gas.

Methods which the members are using to induce energy conservation in the public, private and industrial sectors should be described. Requests for rate changes, curtailment of delivery and the addition of new users should be discussed for each member. Gas usage should be maximized in areas where air quality standards attainment or maintenance is difficult with substitute fuels.

a. Air Quality Effects

The most severe impact upon air quality that might be anticipated from the project could be from rupture of the pipeline, whether or not accompanied by fire. The EIS addresses the substantial fire risk candidly, though it does not consider; 1) the possibility that shutdown equipment could be damaged by explosion or fire; 2) emissions from more than a 20-mile pipeline block could result; and, 3) the ultimate impact from the ignition of gas including vegetation consumed in the full spread of the fire.

While the prevention or mitigation of a disasterous rupture and fire is discussed in the EIS at great length, EPA wishes to add the following observations:

1. Both complete revegetation and the construction of a firebreak are useful means of reducing possible air pollution. There is no evidence that the applicant has or will examine carefully the particular circumstances that make one or the other of these incompatible options more advantageous. EPA questions whether a useful firebreak could be created within the 100-foot right-of-way (R.O.W.).

2. All liquid petroleum products should be recycled as far as practical and dumping near the pipeline should be absolutely forbidden. None but essential storage of flammable materials should be allowed within the R.O.W.

3. The necessary discharge of natural gas from the pipe or compressor station should be monitored with great care against the chance of combustion.

4. The applicant should commit itself to a program of special training, since many techniques normally appropriate to firefighting in brush or timber areas are inappropriate where pipeline also is situated.

5. Mention is made of the possibility of API X-65 steel pipe ripping after installation. Since the pipe itself is a principal element of the project, the safety and adequacy of the chosen type should be justified. Presumably pipe of different weight and strength would be appropriate to different stresses encountered along the routes. More than a general discussion is required.

6. The applicant will need to investigate carefully the possibility that control equipment might be decommissioned simultaneously with a pipe rupture induced by earthquake or flash flood, and that efforts to rescue casualties and repair damage may encounter the very worst working conditions.

Nitrogen oxides and carbon monoxide levels at the compressor stations should be monitored with great care.

Respecting the escape of gas from station or pipeline, the EIS fails to estimate the chance of oxygen starvation in the area, or to analyze what conditions extend the valve closure time; what is worst case closure interval; what means may reduce response time; what redundancy systems might be employed for mainline valves and metering equipment; and what techniques might reduce frequency of blowdown.

While the project will degrade the air quality during system construction and operation, the extent of associated impacts is largely speculative and of a general nature such that potential impacts may be overestimated or grossly underestimated. Precision and accuracy of air quality and meteorological data required for air quality assessments in air basins traversed by the gas transmission system is either completely lacking or not provided in sufficient detail for a thorough appraisal of potential impacts of the project on air quality. We believe that detailed documentation and description of meteorological conditions, pollutant emissions, air quality data and diffusion modeling will aid in making appropriate analysis of air quality impacts that will be encountered as a result of the project.

General air quality topics presented in Part I (Overview) are superficially treated and contain statements which are not substantiated in the other six parts of the draft EIS; for example, on page I-400, last paragraph, the following statement "nitrogen dioxide concentrations at some sites will exceed National Ambient Air Quality Standards (NAAQS) under certain meteorological conditions." does not specifically indicate project related pollutant emissions and resulting impacts. The air quality impact in the Overview should document specific areas that will exceed NAAQS as well as which State and local air quality standards are expected to be exceeded as a result of the project.

Computation of location and value of the maximum ground level concentrations of NO_x due to construction operations using documented diffusion models and worst case meteorological conditions appropriate for the area and season of construction should be provided.

The EIS does not indicate that the applicant has investigated fully the control effectiveness of various dust control measures applied to given slopes, soil textures and composition, and in different climatic settings. Special attention should be given to construction of the airstrips (the need for which requires further justification), treatment of unpaved road surfaces, and slope stabilization. The applicant should observe whatever stipulations are included in state construction contracts respecting soil stabilization and treatment specifications. The EIS should make clear that the applicant is committed to specific programs respecting the fixing of soils, so that unstable particles are not immediately swept up by the wind. Recognizing that some soils are remarkably susceptible to wind erosion, the applicant should examine the history of pipelaying in similar soils to evaluate special techniques of construction.

A principal source of fugitive dust is travel on unpaved roads. Engine emissions also could be reduced by an organized car pooling program or, better yet, bus transport of workers, which is especially feasible considering that work camps may be used along much of the relatively isolated pipeline routes. An essential part of dust control strategy is an enforceable plan of traffic control to eliminate unnecessary trips and restrict vehicle speed. Every effort should also be made to ensure that construction roads do not provide access for off road recreational vehicles.

The size of the construction zone might in many cases, with careful control, be constricted to far less than the 100 foot R.O.W. No plan or intention is revealed in the EIS to reduce the area of general disturbance within the R.O.W.

Reference in the EIS to sale of timber suggests admonitions pertinent to the particulate control program: logging crews should be supervised rigorously to see that only the minimum number of trees are cut; open burning should be specially avoided where fire risk and particulate levels are both high; and efforts to reduce dust during vegetation clearing must be especially intense.

The EIS states that the only impacts of fugitive dust emissions are upon visibility. This statement should be corrected by mention of damage from this source to human health, vegetation, wildlife, and material. EPA reminds the applicant and the Department of the Interior that most areas through which the pipelines would pass are presently in violation of the annual particulate primary standard, attainment of which is necessary to protect public health. Any activity within these areas that increases total suspended concentrations must be viewed with special gravity.

Continued vigilance is necessary to repair vegetation damage from wind erosion, a process that may spread far beyond the right-of-way in a progressive destruction of cover, generation of more fugitive dust, and consequent soil decay.

b. Secondary Energy Development Issues

The issues of coal development and especially secondary development such as gasification plants and electric generating plants are critical to the future of the western states. The juxtaposition of the pipeline route in close proximity to the Dunn County, North Dakota lignite fields, proposed gas exploration on the Flathead Forest in Montana, and associated planning for gasification complexes in this area offers strong evidence that the excess capacity available in the pipeline may be a stimulus to development of these gasification complexes.

While there is little doubt that nationwide energy needs are creating strong pressures to develop more coal resources, particularly western strippable coals, the development of a large capacity pipeline from the area of the Fort Union coalfields to the fossil fuel deficient eastern markets may prove an irresistible temptation to make major investments in mine-mouth gas generating plants. EPA believes that the decisions to allow or encourage secondary energy developments, specifically mine-mouth powerplants and gasification plants in pristine environmental areas for use in other areas of the country, must be made by the States affected. Significant deterioration regulations promulgated by EPA reflect this position of allowing State determination of secondary air quality impacts.

Therefore the justification for the capacity of the pipeline needs to articulate to what extent this proposed pipeline will foreclose State options to control secondary development and environmental degradation of air and water resources. The EIS should further detail the probable amounts of Alaskan and Canadian gas available for delivery, and present a cost comparison on Artic gas delivery cost versus gasification costs.

c. Gas Distribution

The question of national needs for natural gas is only cursorily handled. A chief shortcoming of this EIS is that it fails to discuss or justify the priorities for natural gas distribution for which the pipeline is sized. Out of a total ultimate capacity of 5.9 billion cubic feet per day to be delivered to the United States, almost 40% of the gas will be delivered to the state of California. Even presuming eventual distribution of this gas to a six-state western market area, the identified market shown in Figure 3.1.8.9-13 represents only 25% of the gas consumption in the overall U.S. areas to be served by the ANGTS pipeline.

Since the east is also faced with mounting shortages of gas and oil, the reasoning for such a large proportion of gas to be delivered to the west coast needs further explanation. This issue could be discussed under alternatives dealing with the relative size of the pipe needed.

The EIS does not discuss any further pipeline developments from the Alaskan oil and gas fields, but might it not be reasonable to assume that an oil pipeline will eventually be built to service the high oil consumption areas of the midwest and the east? Under this assumption, would such an oil pipeline be likely to utilize the R.O.W. or at least the same corridor as the ANGTS pipeline?

d. Spill Prevention Containment and Counter-Measure Requirements

No mention has been made of Spill Prevention Containment and Counter-measure requirements (40 CFR 112). Storage is needed, at the construction sites, of oil-derived substances for the operation of vehicles and equipment, and protection measures in accordance with the SPCC are required.

e. Wetlands Protection

EPA is very concerned about the primary and secondary effects of the project on wetlands. EPA's policy to protect the Nation's wetlands and our guidelines implementing Section 404(b) of the Federal Water Pollution Control Act of 1972, 40 CFR 230.4-1(a)(1), and 230.5(b)(8) express our views on the value of wetlands and their protection. The guidelines consider the degradation or destruction of aquatic resources by filling operations in wetlands as the most severe impact associated with the disposal of dredged or fill material in navigable waters. We recommend that the Department of the Interior, which is also very concerned with wetlands protection, analyze the primary and secondary effects of the proposed project on the Nation's wetland resources on a systematic basis. We further recommend that corridors which minimize wetland degradation be utilized to the fullest extent possible.

The remaining comments are organized to evaluate the environmental impacts of the project as they relate to specific areas which it traverses.

ALASKA

Air Quality Considerations

The location of the Barter Island Meteorological Station with respect to the proposed pipeline route should be indicated on Map 2.1.1.1-2 on page II: 181.

What is the frequency distribution of low level inversions and low wind speeds, by season, along the proposed route?

What is the frequency of fog and ice fog occurrence by season of year along the gas transmission route?

What will be the increase in the number of hours of fog and/or ice fog by season due to construction and compressor stations operation (Vol. II - Page 647)?

The meteorological information provided in Table 2.1.1.1-1 indicates the presence of west winds during the winter and east winds during the summer. With these prevailing conditions, what will be the effect on fog and ice fog formation along the pipeline route due to combined operation of all compressor stations?

The air quality standards in Table 3.1.1.14.2 are in $\mu g/m^3$ not g/m^3.

Pollutant emissions for construction equipment should be developed and aggregated as provided in parts 4 and 5.

The short- and long-term concentrations at various downwind distances due to compressor station operations using documented emission rates, diffusion models, and worst case meteorological conditions appropriate for the area along the pipeline route should be addressed.

Since it is stated on page 948-949 of Volume II that the operation of compressor stations may "individually and collectively exceed [allowable degradation in] Class I air quality management areas," we suggest that the air quality data be provided to substantiate this statement concerning the three compressor sites in the Arctic National Wildlife Range.

Water Quality Considerations

Additional information is needed on the availability of water for hydrostatic testing and for construction of the ice roads. We suggest that a further evaluation be made of the sources of this water, the available quantities, and the effects on the stream biota of the removal of the water.

The EIS (P 257) states, "The reader should note that a shift of final alignment of the pipeline route upstream or downstream could increase or decrease the number of streams crossed." Other than Table 2.1.1.5-1 naming and classifying by kind the streams crossed by the pipeline, no data is presented to enable the reader to make a judgement as to which route would yield the least impact in this respect, or what the impacts on stream types would be. Are some streams more hazardous or sensitive to tunnelling, or crossing, than others?

Table 2.1.1.5-4: Two of the three 'streams' for which some quantitative data on water quality is provided are not crossed by the pipeline. Nutrient levels (Nitrogen, phosphorous, potassium, sulphur, iron, and other potential nutrients to be added by fertilizer, sediments, solid wastes, chemicals, etc.) should be quantified for all the major streams crossed by the pipeline. Data on temperature, pH, dissolved O_2, % saturation of O_2, conductivity in Ambos at 25°C, Color Pt. Units, suspended solids and turbidity should also be provided to allow subsequent impact analysis and determination of compliance with standards and regulations. Water quality data, describing the present nature of these streams, should be provided in the final EIS.

The above data for major streams should be coordinated with maximum and minimum fish and wildlife habitat requirements, sewage treatment specifications, drinking water standards and estuarine and marine ecosystem requirements and base data.

The final EIS should incorporate, if possible, the data on springs acquired by the USGS during 1975. Table 2.1.1.5-5 does not give information as to whether the springs included here are crossed or are in the vicinity of the pipeline.

What are the secondary impacts associated with borrow excavation activities upon water quality? Both the degree and location of these impacts require additional data.

The assertion that water quality will be little affected by the project assuming that standards for sewage controls are adhered to is dubious because cumulative impacts on water quality will only partly involve sewage. A more realistic evaluation of impacts is required, considering effects of dust, soil erosion, fertilizer, chemical leaks, and other factors needing further study.

Ecological Considerations

The permafrost analysis is valuable, but no quantified growth rates (production) are given. Tests should be conducted on the productivity effects of vegetation trampling, marring, vapor heat produced by compressor stations, and other impacting sources such as pollution. Permafrost controls vegetation growth and vice versa. The heat-balance interrelationships between permafrost and vegetation need further study and confirmation, in the final EIS.

The terrestrial ecosystem should not include estuarine communities. Thus, the first four major plant communities suggested in the statement should be adequate. However, the analysis of these communities is incomplete. Description of the communities should include air, water, soil, wildlife and human aspects, as well as vegetation, in a quantified, systemmatic manner.

The fifth major plant community, Beach-sand dune strand communities, should be included in the Estuarine Ecosystem; there may also be other vegetational community types to be included in the Ecosystem.

There should also be an Aquatic Ecosystem and a Marine Ecosystem with constituent vegetational communities. Figure 2.1.1.6-1, and Tables 2.1.1.6-1 and 2 are good general sources of information.

The sensitivity of the arctic ecosystems is inadequately described to allow a non-expert reader to understand the full nature of its fragility. Examples of its extreme sensitivity should be given, as well as a list of basic known facts regarding these fragile ecosystems. For instance, the simplicity and inadaptability to new species or other inputs should be emphasized.

The entire wildlife section is generally very good. The information contained here can very easily be incorporated into the community-ecosystem analysis necessary for impact.

Information on migrating waterfowl is of international interest and is not adequately presented. Lists should be provided of bird species in all major flyways and maps drawn illustrating the locations of migratory pathways, and the summering and wintering areas and the number of birds affected.

More general information regarding the importance to migrating species of summering and breeding areas should be provided.

Habitat information on Eagles, Hawks, Owls and Other Birds is not adequate, especially regarding the Peregrine Falcon, an endangered species. Since it is endangered, it must be protected from disturbance. Information on its habits in and use of areas affected by the project should be presented.

Data on fish minimum and maximum habitat requirements needs to be quantified. Salinity, nutrients, turbidity, dissolved O_2, and additional habitat requirements should be provided in the final EIS for eggs, immature, and mature fish. This data should be coordinated with Aquatic and Marine Ecosystems data.

It would be helpful if the ecosystems categories discussed were organized as Terrestrial, Estuarial, Aquatic and Marine.

The Figure 2.1.1.8-1 "Functional dynamic model of Taiga Systems for Alaska" is a good general diagram. If quantified by an ecosystem input-output analysis, such a diagram could be a useful impact assessment tool.

The ecosystem analysis should be the basic framework for description and impact assessment. The ecosystem descriptions in the draft EIS are merely gratuitous. It should not be unduly difficult to reorganize all baseline information on the environment into the vegetational communities and ecosystems. It would provide a systemmatic framework for data gathering and impact assessment presently lacking in the EIS.

Figure 2.1.1.8-2 "Solar radiation at Barrow, Alaska and photosynthesis..." is a good, helpful chart. All major inputs and outputs can be related simply in this manner, and they are more easily communicated than through description.

Primary productivity in "Aquatic Ecosystems" should be quantified to allow impact assessment. Table 2.1.1.8-1 for "Marine Ecosystems" is a good example.

Food chain data should be quantified for each community. This is needed for impact assessment on wildlife and vegetation.

Statements such as: "Human activities upstream that would appreciably increase the loading of dissolved organic nitrogen into the water could have deleterious effects on this balance." are common. They do not identify the activities involved, the impacts, or amounts of impacts, or upon what species of fish, or where, or during what season, etc. If existing and new information were organized systemmatically, these questions could be much more readily answered.

Considering its importance, the "Vegetation-permafrost interaction" section is inadequately developed.

Impacts upon vegetation, as impacts on all other environmental compartments, should be related to ecosystem impacts. For instance, lemmings, permafrost, animal grazing, birds of prey, surface drainage, leaching, erosion, and other factors affect and are affected by vegetation removal. Compressor pollutants, and snow collection activities will also diminish vegetation cover. The impacts upon each vegetation community can be analyzed effectively by more careful consideration of the dependent factors.

The draft statement separately states that nearly every large species of wildlife and fish as well as many important marine mammals and birds will be significantly diminished. Impacts upon the habitats and communities of this loss of components have not been stated. What are the long-term effects of this alteration of the systems?

The one-page "Long-term Secondary Impacts on Mammals, Birds, and Fish" is inadequate. Species and habitats to be decimated, or significantly reduced, should be listed. Effects upon the habitats and ecosystems involved should be set out more thoroughly.

The Ecological Section should be substantially revised. All environmental factors (biological, chemical and physical) should be considered, rather than vegetation only. A section such as this, quantifying requirements and relationships of all major factors of each vegetation community, should be an introduction to the descriptive and a baseline data format for impact analysis.

We are concerned also about the effects of stream siltation resulting from the excavation of gravel from stream beds, from runoff during construction of stream crossings, and from runoff from the borrow and disposal pits.

The effects of the planned disposal of a diluted (1%) solution of methanol from hydrostatic testing is addressed only tentatively in the EIS. The effects of the 20% solution that will be used in the actual tests were not examined at all. When leaks are encountered, it is this concentrated solution that will be released directly into the tundra ecosystem. An analysis of the amounts and effects of such a release should be presented.

Ancillary Facilities

The final EIS should provide justification for the quantities and distribution of the pipeline ancillary facilities. The reader, partly because of the lack of good maps and charts, has no method of evaluating the need for the facilities indicated, or of evaluating the impact of each facility in a site-specific manner. Therefore, because of the magnitude of possible impacts on the environmental systems, the final EIS should detail the specific locations of all significant ancillary facilities.

Air/water and noise compliance requirements (that should be referenced to other EIS sections) should be provided for the ancillary facilities incorporated at compressor stations sites.

For example:
Unburned liquids removed from the main-gas and fuel gas scrubbers are to be placed in portable containers for disposal. Where and how is this to be accomplished? Existing regulations should be cited and compliance measures described.

What are the by-products of the combustion of compressor and equipment waste? What then are the cumulative pollutants, by type, to be emitted at a station operating normally, at average conditions, and, under worst case conditions? What are the pollution levels by type existing and over what area? How are air, water and noise standards to be complied with, and pollutants monitored?

Details of sewage waste treatment requirements initially, and for ongoing operation, are not provided. How were the size and numbers of lagoons determined? Is there provision for expansion? What are the locations? The final EIS should include details on the above issues, including specifications for disposal of waste.

Socio-Economic Considerations

Local economic development data are not sufficient to allow impact assessment. No information is given about the rapidly developing area around Prudhoe Bay. Income data is not adequate. No TAPS incomes are given, and no income data is related to cost of living or disposable income. Subsistence data is generally good. More recent information should be included in the final statement.

Sociological information appears adequate for description of what existed as of 1972-3. However, the final statement should include a description of changes brought on by the TAPS for the areas surrounding it.

The draft statement describes the land use agencies and organizations that exist, but does not describe their responsibilities or jurisdiction, if any, over the project.

The size and "future status" of Prudhoe Bay as an urban area is underestimated over the long run, assuming future oil and gas exploration. More realistic analysis should be presented on the long-term and secondary impacts of future development for the final statement. Recent TAPS construction has evidenced more impact upon surrounding areas than had been either anticipated or provided for.

Revegetation Considerations

A description of the revegetation studies relied upon, as well as other revegetation studies on disturbed sites in the Arctic, would aid the reader in evaluating the revegetation program. This should address the use of exotic plants (usually a questionable practice), replacement potentials of the native plants selected, survival results of tundra mats as well as seeded plots, etc. Worst case studies, involving compaction, a chilled pipeline-mounded-berm, trampled and burrowed soil, slumping and heaving soil, excess water caused by flow obstruction and other worst case factors, should be made. The success of revegetation affects not only vegetation and water quality, but the integrity of the pipeline itself. Such study should be completed prior to construction.

The draft EIS states that the Applicant believes that surface restoration procedures following heavy equipment damage to vegetation are adequate and are to be the same as those for restoration and revegetation following initial construction. Sections in the draft EIS on revegetation studies, and authors of other relevant studies, do not indicate that revegetation will generally be successful under project conditions. Statements regarding the Applicant's beliefs are not adequate presentations of data. For the final EIS, a more realistic appraisal of heavy equipment damage to sensitive tundra ecosystems should be set forth. Ongoing studies involving TAPS construction activities could provide relevant information.

The analysis of nutrient (Nitrogen and phosphorous) availability of limiting nutrients is valuable. Other soil nutrient availabilities (potassium, iron, calcium, etc) considered important for each vegetation type should be studied as well, and available amounts for each major type quantified. Since plant growth and nutrient availability are interlocked, this study will be needed for the ongoing assessment of impact and revegetation success for the relevant vegetational types. Temperatures and pHs should also be given.

The ability of the ecosystem to recover from the effects of construction is also important. The successful revegetation of the tundra, a technique essential for prevention of erosion and stream siltation, has not been demonstrated. Also of concern are the effects of drainage blockage, not only during construction, but during pipeline operation, as a result of the frost bulb.

Secondary Effects

One of the most serious secondary effects from the establishment of a natural gas transportation corridor through the Arctic National Wildlife Range would be the almost certain stimulation of the development of petroleum resources in the Marsh Creek anticline, an area within the Wildlife Range borders with projected reserves of the same order of magnitude as the Prudhoe Bay field. The activities at Prudhoe Bay, and their resulting environmental effects, make an accurate model for predicting the environmental impacts which would occur at the Marsh Creek site if similar exploration and production were allowed there. These potentially severe impacts were not addressed in the EIS, but they would be among the more serious results of the proposed pipeline. In view of the publicity and increased ease of access resulting from the proposed pipeline, we question the suitability of the proposed Prudhoe Route.

Alternatives

No mention has been made of the use of above-ground pipeline, such as was utilized in the Trans-Alaska Pipeline construction. This alternative needs to be considered not only for stream crossings, but also for sections over the tundra and wetlands. A suspended pipeline would not have to be refrigerated, thus saving energy and reducing compressor station impacts as well.

In order to allow only the minimum degradation of currently unimpacted areas, we suggest that the pipeline route follow existing transportation corridors wherever possible. The Fairbanks/Alaska Highway alternative route seems to be an excellent example of utilizing existing facilities and avoiding many unpopulated, inaccessible wilderness areas, in which the impact of such a massive project would be much more severe.

Insufficient information was presented in the initial description of the project as to the rationale for selection of the proposed route. The final statement should include a comprehensive justification for the proposed route through Alaska, and identification and description of existing technologies and developing methods not considered by the Applicant.

Additional Considerations

No maps, illustrations, or descriptions are provided to adequately delineate the existing transportation facilities, project routes and stations. These should include TAPS and political and social boundaries on a large regional, state and local (route) level. Projected facilities (including airfields) should, if possible, be emplaced as an overlay, allowing the reader to assess current and project access and impacts on the State's transportation system. (For instance, simplified maps, of the sort described above have been provided for such factors as climatic systems.)

Specifications, descriptions in greater detail, and specific routes for snow and ice roads should be included in the final EIS.

The need for a 120 foot- R.O.W. is not examined, or described. Will portions of the R.O.W. require a gravel pad? How thick is the snow pad? What are the specifications? What happens to it during the summer?

Since many activities will occur during the summer months, when danger of damage is heightened, detailed descriptions of the effects of machinery, equipment, and the numbers of persons, on the areas and habitats involved should be included in the final EIS.

Construction camp locations should be provided or, if not yet available, specifications for their location identified.

What is the composition of the impermeable dikes surrounding the fuel storage tanks at facilities?

Contingency plans should be presented and evaluated in the final EIS in the event the pipeline is not completed in one winter.

A chart-map illustrating slope percents, integrated with soil types (for instance ice-content and erosion potential), along the proposed route, as part of the data base for pipeline integrity analysis and environmental impact analysis should be included in the final EIS.

Specific sand and gravel locations and withdrawal amounts should be presented. This information should be integrated with critical fish and wildlife including bird habitats, and other high impact area data.

The issue of the proper pipeline material and construction details is still apparently open to question. Information is needed on the toughness of the pipe under actual arctic operating conditions. This could perhaps best be answered with research on a chilled gasline prototype. Fundamental questions include the effects on pipeline integrity of frost bulb formation, frost heave, and thawing and refreezing during temporary shutdowns. Such information is basic to a realistic estimation of the frequency and difficulty of repair.

General discussion of problems and questions associated with the construction of a chilled pipeline buried under arctic tundra, in permafrost, and subsequent integrity is good with respect to pipeline project technical problems, with the exception of frost heave problems. It is not clear however what kinds of studies are being conducted by the applicant, nor whether they will answer many, if any, uncertainties. For the final EIS a list of studies being conducted by the applicant before construction should be provided, in addition to a list of ongoing studies necessary for compliance with local, state, and national standards and regulations.

Data on the experience of the TAPS project should be included as an aid to evaluating the effects of the pipeline construction in the following areas;

a) summer recovery and vegetative damage from ice roads;

b) sewage treatment and disposal methods for camp sites;

c) water quality monitoring results;

d) wildlife response to construction activities;

e) success in revegetation programs.

The prime route involves an area of water-saturated soil, crossed by numerous streams (125 streams in the 195-mile stretch) and supporting a unique wetland biota during the growing season. EPA's policy to protect such wetlands is reflected in its September 5, 1975 guidelines for implementation of Army Corps of Engineers regulations governing the granting of permits for activities in navigable waters, as prescribed by §404 of the Federal Water Pollution Control Act (P.L. 92-500). Since the proposed activities will probably have significant impacts on the local wetland areas involved, we question the suitability of the proposed prime route as an environmentally satisfactory route.

WEST COAST

Air Quality Considerations

In Figure 2.1.4.14-1, the value of .25 ppm, given for the annual mean NO_x standard in California is actually the hourly standard value. (Vol IV, P 498)

The EIS should document the reference(s) of the information in Figure 2.1.4.14-3 and 2.1.4.14-4, listing pollutant concentrations. (P 501 and 502)

The EIS should describe the conditions which would require monitoring air quality and meteorological conditions in the vicinity of compressor sites; i.e., would existing air quality, prevailing meteorological conditions, topography, or state discretion dictate the establishment of a monitoring program.

In addition, the EIS should verify the NO_x concentration estimates of 125 $\mu g/m^3$ and 40 $\mu g/m^3$ by providing the following information: (a) how were the emissions data (a)-(d) on page IV-710 combined; (b) what were the meteorological input parameters, and (c) what dispersion equation was used in the computation? (P 710 and 1803)

The statement in paragraph 4 (P 800) alluding to a short-term National Air Quality Standard for NO_x is incorrect since currently no such National Standard exists.

What calculations indicate the concentrations may exceed NAAQS and reach the stated physiological danger level (500 $\mu g/m^3$) for extended periods? (P 1806)

Alternatives

Two separate pipeline systems are proposed for the West Coast. One, constructed and operated by Pacific Gas Transmission and Pacific Gas and Electric, would extend from Kingsgate, B.C. to San Francisco. The other, constructed and operated by Interstate Transmission Associates (Arctic) and SOCAL, would extend from Kingsgate to Los Angeles. The San Francisco line would follow an existing gas pipeline right-of-way for virtually its entire length.

The EIS states that the Kingsgate to Los Angeles route is preferred to the combined Kingsgate to Los Angeles via Antioch alternative on grounds that the latter would require revisions of design, new agreements between the involved companies, and because the alternative route would be less useful if gas supply sources are developed in the Rocky Mountains.

The EIS makes little attempt to defend the chosen route on environmental grounds. Indeed, it appears that the EIS admits an overwhelming advantage to the combined Antioch route. In particular we note that a single line would mean 730 fewer miles of pipeline and 26 fewer major stream crossings.

In its attempts to tally the impacts of the Antioch to Los Angeles pipeline, however, the EIS appears to exaggerate land disturbance, since two existing pipelines already occupy the route and the addition of a further pipeline (on a slightly extended R.O.W.) could not be blamed for disruption previously existing. On the contrary, the occasion of new pipelaying might permit more effective restoration projects in the entire R.O.W., using techniques developed since the original pipes were placed.

The possibility of shared facilities, maintenance, and hazard reduction planning and equipment would seem to outweigh the disadvantages of dispersed risk and decreased versatility should a catastrophe rupture all three lines along the Antioch to Los Angeles route or should supplies of gas be discovered or manufactured closer to the proposed Nevada route. From an air quality standpoint, the Antioch alternative is obviously preferable: less land would be disturbed and revegetation would be far easier.

Among the special environmental hazards that might be avoided by the Antioch combined route is the need to pass through the Owens Valley Area. The EIS presents with admirable candor and detail the risks associated especially with construction along Owens Lake, where the applicant intends not only to route the pipeline, but also to locate the final compressor station. There does not seem to be any means of decreasing the risks or mitigating the damages inevitably associated with placing and operating a pipeline on this land. The area is subject to severe earthquakes and flash floods. The water table is literally at the surface in many places; unstable mud extends down as much as 920 feet and has insufficient strength to support workers themselves. The soil is extraordinarily alkaline; hydrogen sulfide levels are high and may be expected to increase with geothermal development in the region; heavy pipe corrosion is unavoidable. Other factors are mentioned in the EIS that further increase the likelihood of pipe rupture or station damage, and make repair an unusually hazardous and slow operation.

Several suggestions were made regarding minor route changes, mitigating measures, and monitoring activities with regard to protection of water quality. We endorse these recommendations and urge that they be part of the permitting conditions.

Special consideration should be given to alternative routings for the Moyie and John Day River crossing, the first being a possible Wild and Scenic River, and the latter already designated.

Socio-Economic Considerations

P.G.& E estimates a 1 Bcf/d deficiency of natural gas by 1982. This deficiency, the statement suggests, is based on population and industrial growth. There is no support data presented for this estimate and demand potential based on current rates is not a valid measure. Statement of economic impacts is deficient as above and suggests that an influx of capital and labor for energy conserving equipment (unspecified) represents environmental degradation.

It would be helpful to discuss the economic stimulation impact of storage tanks, harbor, and shipping construction investments versus the proposed action. Long term storage costs of LNG are not specified. In view of the stated concern regarding national security and balance of payments implications of supply curtailment, these costs are relevant. (Vol VI, P 52)

Conditions of Canadian NEB LNG importation are given as of 1973. Have these conditions varied and/or have they been explicitly abided by? (P 54)

There is no specification of what cost constraints arise concerning deep water pipelines placement in the Arctic Gas System as researched by Canadian Arctic Gas Study LTD. Some expansion here would be helpful. (P 57)

NORTHERN BORDER

Air Quality Considerations

Our review of the EIS revealed a number of specific issues relating to air quality. These issues are as follows.

In Volume 5, page 896, the final EIS should explain in meteorological terms the reference(s) which substantiate the following statement: "there are also no opportunities for stagnant inversion layers except at the crossing of the Mississippi River west of Indiana."

An explanation of the values adjacent to the rivers listed on page V-899 should be provided.

The wind speed in (8) on page V-1218 is mistyped; what value was used?

What distinguishing assumptions were used in the "sensitive" area calculations (page V-1217-1218) to produce such variations in ground level concentrations?

What mixing heights were used in the "sensitive" and "non-sensitive" area calculations?

What is the reference which indicates that the energy flux of a compressor is less than that of the earth's surface around it as stated in Volume V, page. 1221?

What diffusion equations were used for the construction phase of concentration calculations?

What is the reference for Equation C on page V-1205 for estimating annual average concentration at a given site?

What are the compressor stack characteristics used in the diffusion analysis given in Vol. V, page 1202?

How were the emissions data on page V-1217 combined into an emission rate in grams per second?

What mitigating procedures will be taken to insure that no violations of the NAAQS will occur at the river crossings discussed on page 1218?

The Emission Density Ratio, as defined in page V-898, is not a correlation, but an index, and thus the discussion is misleading and should be clarified. In addition, air quality standards must be met everywhere, not just on an AQCR-population basis.

What values indicate the state air quality standards for NO_x emissions will not be met in Indiana and South Dakota? What mitigating measures will be taken to avoid violating these standards?

Since Dayton is within an AQMA, the effects of the compressor operations on air quality should be estimated. (V-1207)

At the compressor stations, condensate will be emitted into the air. The characteristics or properties of this condensate should be discussed. Since there is some sulfur present in the gas, the possibility of acid mist formation exists. It would appear the chances of acid mist formation would be minimal. However, some of the compressor stations will be located in sensitive areas and under certain meteorological conditions adverse impacts could result.

Water Quality Considerations

The statement should discuss the site specific impacts and indicate what mitigation measures will be employed in the pipeline crossing of the Wapsipinicon River. The Wapsipinicon River is on the 5(d) list of rivers to be studied for designation of "Wild and Scenic River" under PL 90-592, and the impacts of any pipeline construction must be more carefully assessed.

In evaluating the crossing of the Mississippi River, the statement should evaluate foreseeable impacts to the Mississippi Navigation System from the reintroduction of contaminated sediments from trenching operations into the water column. The statement should identify, the need, if any, for Section 404 or Section 10 permits from the Army Corps of Engineers for work in the rivers crossed by the pipeline.

The EIS indicates that approximately 20 wetland - designated areas in Iowa alone, will be crossed by the proposed pipeline. The estimated acreage loss is approximately 25 acres. The final EIS should provide an identification as to type and value of these wetlands. Also, the EIS should put particular emphasis on the potential secondary losses to the adjacent wetland not directly crossed. The potential for a violation of EPA's wetland policy exists.

In South Dakota and Minnesota, several wetland areas and pot-hole lakes will be crossed and filled. The loss of these pot-hole lakes could affect water quality and impact wildlife and wildfowl. The significance of these losses should be estimated. Where possible, construction in or near these wetland resources should be avoided. (V-1008)

There should be an identification in the final EIS of the acreage and value of hardwood tree loss at the major stream crossings and other areas along the proposed route.

It is likely that the removal of trees along stream banks during construction will cause temperature increases in the streams. Canopy trees should remain in place where possible to minimize any potential temperature increases and attendant environmental impact.

The EIS is notably deficient in one environmental area of discussion -- water quality standards. No mention is made of appropriate standards on the various stream reaches to be affected; yet potential violations of standards could occur with saline and toxic material discharges during construction. The EIS must delineate both the effluent and ambient water quality standards in effect along the pipeline route.

A further water quality consideration should include stream reach classifications that could potentially be affected by the project. Emphasis is continually given to "major" stream crossings, but little discussion is presented for other smaller yet important streams. The EIS should list the use classifications of the affected streams. It would also be important for the Applicant to consult with State Fish and Game departments to identify the types and extent of State fisheries in order to plan for mitigative measures to protect sensitive stream reaches.

Although the EIS does identify a list of municipalities whose surface and groundwater supplies may be affected by the project, the EIS concludes that such impacts will likely be minor. A more rigorous procedure is needed to protect these supplies from potentially dangerous degradation due to toxic materials or fuel spills, herbicide drift, etc. The Applicant should require the contractor to take special precautions where such municipal supplies are involved.

The pipeline route will intercept numerous shallow aquifers. These shallow aquifers may be degraded by the introduction of sulfates. Where possible, the location of these aquifers should be determined prior to construction and the pipeline aligned to avoid them. Consideration should be given to sealing those aquifers which cannot be avoided in order that further water quality degradation may be prevented. (V-1015)

The EIS addresses in reasonably detailed terms, the locations of saline aquifers, saline seeps, etc., along the pipeline route. However, construction practices near saline aquifers and seeps must be more carefully defined to help minimize their expected impacts on adjacent water supplies.

First, how is the contractor to know when saline water is encountered? Some procedure such as electroconductivity measurements may be needed to identify saline materials (refer to pages V-1266-70). Secondly, the EIS proposes to dispose of groundwater by pumping to an overland area or by discharge to a local stream. Saline water could create several revegetation problems if salt concentrations build up too high near the surface. Discharges to streams in some States could result in stream standards violations. For example, in the Lake Plain of South Dakota, TDS values in the groundwater may reach as high as 7000 ppm in isolated areas. State of South Dakota TDS stream standards for drinking water are 1000 ppm and 1500 ppm for irrigation water. Such discharges could create downstream problems especially during conditions of low flow.

EPA may become involved with this project in two other areas in addition to those mentioned in the EIS. Section 311 (b)(5) of the Federal Water Pollution Control Act (FWPCA) requires that any oil or hazardous substance spill as described on page V-1287 of the EIS, be reported to the appropriate U.S. agency. The Coast Guard, the regional office of EPA, and the State Water Pollution Control Agency should be contacted in the event of any spill.

EPA is also required to review Section 404 FWPCA dredge or fill material discharge permits in coordination with the Corps of Engineers. The appropriate State should also be contacted.

It is not clear how the use of water for hydraulic testing of the pipeline as proposed on page V-1268 conforms with Western water law. It is proposed that no more than 10% of the streamflow would be used, but this would have to be checked with the appropriate State water conservation agency to insure that water rights were not affected.

To ensure that the pipeline has been properly welded and sealed prior to operation, it will be hydrostatically tested. A maximum of 497,000 gallons of water will be necessary to test a one mile section of 48 inch-pipe. The effects of withdrawing the quantity of water necessary from rivers and streams along the corridor should be assessed. It is not clear whether or not water will be reused in subsequent sections. After the test is complete, it is proposed to discharge this water into the nearest stream. Prior to discharge, it should be assured that the water will comply with water quality standards. In addition, this water should be discharged at a rate that will not cause flooding, or damage to stream channels. (I 79)

The loss of mussel beds due to the blasting of the pipeline trench should be detailed. The EIS should indicate the role in the foodchain that mussels serve and whether or not the fish population will be adversely affected by loss of food. Furthermore, mussels help remove sediments and contaminants from the water. An indication should be provided on how soon mussel re-population could occur over these trenched portions of rivers. (V-1107)

The effects of pipeline construction on endangered aquatic species in Ohio should be detailed. While it was acknowledged that the pipeline will cross rivers where these species are found, no information regarding the impacts on them were provided.

Alternatives

EPA has the following comments to make on the range of alternatives discussed in the draft statement.

In general, a comprehensive approach to alternatives was used in the EIS. However, a number of alternatives, particularly those of the Applicant, appear to be unrealistic. There are alternatives suggested by Interior, however, that are plausible.

If the Trans-Canada Pipeline is to be built bringing natural gas to the Great Lakes region, utilization of this system to supply the U.S. Midwest and East Coast areas, without building the Northern Border Pipeline, should be studied.

Serious consideration should also be given to a route with fewer environmental impacts, such as Line 5. This alternative is 135 miles shorter than the proposed pipeline route and avoids the prairie pot-hole regions.

Should the Northern Border pipeline be built, we urge rerouting to avoid the Black Ball Mine area of Illinois which is inhabited by the endangered Indiana Bat.

EPA believes that a case has not been made for the need for both a West Coast and a North Border Pipeline. Discussion is needed in the EIS of the feasibility of constructing one or the other, with existing sources being reallocated to supply the remaining areas. This possibility is addressed in the document entitled "Alaska Natural Gas Transportation Systems" and subtitled, "Economic and Risk Analysis," prepared by the Department of the Interior and the Aerospace Corporation Study Team.

If at all possible, pipeline alternatives should be considered that would avoid the badlands area and the Killdeer Mountains. The alternatives section V-8 discusses pipeline alternatives that cross to the north and east of the Missouri River as well as in other areas of the badlands to the south. This alternatives section does not consider an alternative that could minimize damage to this area by crossing the Little Missouri River downstream at a point where Lake Sakakawea has inundated the streambed. Such a suggestion is mentioned in the section dealing with mitigation measures on page V-1333. Further evaluation of such an alternative is needed, recognizing that the Indians of Fort Berthold reservation will have to be consulted. Such an alternative could protect a sensitive environmental area and yet come close enough to the Dunn County lignite fields to allow for an easy tie-in by future gasification facilities.

The EIS notes that Federal lands, potholes and wetlands, natural areas, recreation areas, and parks along the pipeline route will be affected. The EIS summarizes statewide totals for such impacts, but does not precisely identify the actual sites involved. Had the EIS identified the actual locations and extent of such sensitive areas, it would have been possible to judge the merits of minor pipeline re-routings to avoid such areas. Even with a major area of disturbance such as the North Dakota badlands, it was extremely difficult to make such an evaluation. The final EIS should attempt to identify such areas where it may be feasible to avoid environmental degradation.

In the State of Indiana, several sensitive Wabash-Ohio River Valley rivers and streams will be crossed. Hardwood trees will be removed from these banks increasing the erosion potential. Consideration should be given to using an existing pipeline corridor. The Map on page V-827 shows an existing corridor beginning at the Illinois-Wisconsin-Iowa border and running east to the proposed terminus near Pittsburgh. In order to reduce the adverse impacts caused by new stream crossings and the crossing of natural areas, we recommend that pipeline corridors be combined whenever possible. By using existing pipeline R.O.W., the impacts upon the environment should be minimized.

Mitigating Measures and Monitoring of Construction and Operations

Areas for which an expansion of information should be made under Section 4.1.3.1 of the draft EIS are listed below:

a. The air quality control regions (AQCR) to be crossed by the pipeline have not been identified. Measures for the disposal of cleared material, such as unmerchantable timber, tree tops, trimmings, slash, stumps and brush may be limited to landfills and not burning as stated on page 1266. In addition, the landfills are not identified and are probably unavailable. Therefore, we believe the fibrous material above should be mulched and spread on the R.O.W. to aid in the revegetation and erosion control plan.

b. A solid waste disposal plan should be provided for all other solid wastes generated by construction not specifically related to "a" above.

c. Planned measures for water quality maintenance should be expanded for specific sites in Iowa, such as the river crossings and the wetland areas. For wastewater discharges of sanitary, construction and testing use, the applicability of a National Pollutant Discharge Elimination System permit should be determined.

d. Restoration methods at stream crossings have been suggested on a generalized basis in the statement. However, specific plans for the rivers and streams have not been identified or evaluated. This identification should be expanded on in the final statement.

A number of issues under Mitigation Measures needs further discussion. EPA is in agreement with the DOI position that only detailed contract specifications dealing with revegetation techniques, pipeline decision specifications, local noise evaluation, etc. rigorously followed will adequately mitigate many construction impacts.

No mention is made under Mitigation Measures of ways of lessening archaeologically-historical impacts. On a project of this size, perhaps a full-time archaeologist should be present to evaluate materials which may be unearthed during construction. At least procedures should be spelled out for the contractor to follow in the event of a find during construction.

EPA is also in agreement with the DOI position that the Applicant should make compensating wetlands available for any public wildlife refuge areas or easements lost because of pipeline construction and operation.

Herbicide Considerations

The discussion on herbicide use, page 1278, should provide the reasons supporting the statement that 2,4-D and 2,4,5-T are used in less quantities in the eastern portion of the pipeline corridor than the western portion. The statement should also identify the demarcation of eastern and western portions. Alternate herbicides should also be identified.

Noise Considerations

As a result of pressure venting, serious noise levels may occur. An estimate of the impacts that these noise levels will have upon human health and wildlife should be provided. Noise from venting was discussed in the overview, however, there was no indication of how the behavior pattern of wildlife will be affected especially during mating and rearing seasons. (V-1239)

Revegetation Considerations

One of the most critical construction issues in the EIS is the question of revegetation. The EIS recognizes that revegetation in semiarid Montana and North Dakota will be difficult. The EIS further delinates the soil series in these States whose profiles show a thin (12-20") poorly developed topsoil with subsoils and present materials (clays, toxic materials, sands and saline materials) beneath which may thwart efforts at revegetation if mixed and left at the surface. Yet the Applicant has proposed mixing topsoil and subsoils except in instances where the landowner requires topsoil separation. The Department of Interior, recommends topsoil separation on the entire route. EPA strongly believes that the satisfactory revegetation of disturbed lands should be included in the project design and we support the Department of Interior's recommendation.

In view of the "stringing" procedure on building the pipeline, and the short period of time involved from initial surface disturbance to pipeline burial, it would appear relatively easy to develop a consistent construction procedure to initially scrape the valuable, plant-sustaining topsoil, store it, and later regrade with it. The construction specification should also include a provision to rebury subsoil materials of a toxic nature to approximately their original depth.

The Applicant places great weight on mulching techniques to aid the revegetation process and to hold down wind erosion. Similar attempts on western strip-mined areas have occasionally met with failure because the mulch itself was removed by the wind. It would appear that the Applicant may save money and time in the long run by increasing the chances of revegetation success with stockpile topsoil.

Socio-Economic Considerations

Specific evaluations should be made of the social and economic effects along the pipeline route. The statement only presented a generalized hypothesis of what impacts might be expected.

The EIS indicated that the effect on population and industry would be minimal. It would appear there could be some major shifts from areas presently experiencing gas shortages to areas that will be located along and serviced by the pipeline applicants. These impacts should be thoroughly investigated. (V-1148)

During the actual construction of the pipeline, 500-1000 pipeline workers will be in a typical town, most for periods of several months. While this is not a long period of time, the impacts upon local water supply, solid waste and sanitary waste facilities could be significant. Towns along the R.O.W. which presently have insufficient potable water and inadequately treated sewage should be identified and, if necessary, these communities should be aided in meeting the short-term needs. (V-1151)

The EIS should provide an additional discussion of the sociological factors associated with providing community services to the pipeline crews. An evaluation of the potential burden on small communities for providing additional housing, police protection, health facilities, sewage, water, streets, recreation, etc., should be included. The EIS speaks of potential revenue accruing to the rural areas; it should also identify the costs.

The EIS should evaluate the impact of natural gas availability on the natural gas curtailment plans presently being reviewed in the midwest as well as other parts of the conterminous United States. The potential impacts from providing some 1.2 trillion cubic feet per year of natural gas should be presented in light of the predicted national curtailment for the '74-'75 heating season of 1.6 trillion cubic feet.

The EIS should indicate whether, in evaluating the value to the GNP of this new gas source, the potential market price has been used or the probable shadow price.

The EIS should identify and discuss the need for gas storage facilities along the proposed route especially as they may be used to store peak heating season supplies as proposed by the Northern Natural Gas Company.

Land Use and Related Considerations

The EIS should show how the location of compressor stations and other pipeline facilities or gas use will help, hinder, or fit into the specific land use plans or the geographic projections of population growth adjacent to the pipeline.

One quickly recognizes that because of the geographic extent of this project, and the relatively minor direct impacts of pipelines themselves, cumulative impacts tend to become more important than localized effects. However, at least one geographical area, the North Dakota badlands, appears to be most sensitive to be proposed pipeline route and should receive more careful attention in the project design.

The badlands surrounding the Little Missouri River are a highly eroded, rugged area of Western North Dakota that has both aesthetic and environmental values in its undisturbed state. The Little Missouri River may be considered under the Wild and Scenic Rivers Act, and much of the area could be added to the now scattered pieces of Theodore Roosevelt National Memorial Park. The pipeline could seriously jeopardize both of these considerations.

A more detailed evaluation is needed of the impacts, construction techniques and mitigation measures occurring at the point where the pipeline is expected to cross the Little Missouri River in the North Dakota badlands. Revegetation techniques, methods of construction a [illegible] and a detailed discussion of the permanent visual impact should be presented. Similar analyses should be made for French Creek in Montana and for the area near Bismarck where the pipeline climbs to the Coteau du Missouri.

Two specific natural areas in Illinois will be affected. The area along the Illinois River at Pecumsagan Creek is a natural prairie which the State of Illinois Department of Conservation is attempting to purchase. The bisection of the prairie by the proposed pipeline could permanently change its character. The Illinois and Michigan Canal is a historic land mark, several portions of which are used by canoers, hikers and naturalists. In order to preclude adverse impacts on the character of these two areas, we suggest that Pecumsagan Creek area be avoided entirely and the Illinois & Michigan Canal crossed in an area of minimal interest. (V-1030-1031 & V-1089 - 1090)

The Delaware Reservoir State Park in Central Ohio will be traversed by the pipeline. This area is designated for wildlife preservation and should be avoided. (V-1192)

In the discussion of Minnesota's wetlands, it is indicated that almost all the wetlands are under agricultural production. The construction of the pipeline will also remove additional acreage of wetlands from wildlife production. The significance of this wetlands removal should be estimated. The State of Minnesota is also considering purchasing certain wetlands to be crossed by the pipeline. Without the knowledge of the exact location of the pipeline, it is impossible to determine if the pipeline construction will preclude the State from purchasing these lands.

Wetland drainage appears to be a likely possibility if the pipeline construction traverses such areas. Wherever possible, the pipeline should avoid wetland locations. If a wetland must be crossed, construction procedures should insure recovery over the alignment and wetland integrity at its boundaries so as to prevent alteration or destruction.

In Illinois, the wetlands affected by the pipeline are generally wet meadows. It is assumed these meadows will recover in two-to-three growing seasons. Measures to enhance this return to usefullness should be provided, including the re-establishing of wildlife, replacement of vegetation and flooding of areas that have been drained through construction activities. (V-1052)

Where fields with rare or endangered wildflowers will be crossed, State Conservationists should be permitted to enter and relocate these species or flag areas within the construction zone to be avoided. As indicated in the EIS, wooded and brush vegetation in Ohio is scarce and found mainly along rivers and streams. Consideration should be given to allowing these segments of the R.O.W. to revegetate. (V-1108)

In Illinois where rare plants will be lost through construction, persons from the State Department of Conservation should be permitted to remove these plants to other suitable locations. (V-1056)

Where the R.O.W. is cleared of brush and trees, this material should be piled along the R.O.W. for wildlife enhancement.

The discussion on noise does not adequately address the impacts upon local residences from construction activities. (V-1159)

The possibility of gas leaks does exist, and the likelihood of such occurrences should be estimated. An evaluation should be made of the adverse impacts on vegetation, wildlife and human life which could result from such leaks.

Specific information should be provided on the local (near) environment, the effects on wildlife from noise and construction activity, the changes in runoff patterns and erosion preventative techniques for areas selected for compressor stations, stockpile areas, maintenance sites and airstrips.

Locations of sensitive avian and land animal populations, migratory, breeding and feeding areas should be indicated along the pipeline route prior to construction activities. Where possible, these areas should be avoided or disrupted as little as possible, particularly during nesting seasons. Some types of restocking and relocation program should be undertaken by the applicant to replace wildlife, wildfowl and their habitat which are lost due to construction activities.

The possibility of the pipeline raising the temperature of the surrounding earth during the winter months should be addressed. The effects on the soil will depend on whether or not the pipeline is below the frost line. If the heat transferred from the pipeline warms the soil in marsh or wetland areas, growth of plants and insects activity could be triggered at too early a date. (V-1056)

Microwave towers will be used to provide communications and control between compressor stations along the entire route. It should be indicated whether or not microwaves will interfere with bird or bat flight.

A description of the electric transmission line construction necessary to operate compressor station should be included in the EIS.

Additional information is necessary to assess the impacts associated with the 27 landing strips to be constructed in conjunction with the pipeline. A general description should be provided of the runway lengths, clear zone widths, etc. the number of operations anticipated, the size of aircraft, the noise levels, the location of known nesting and breeding areas of birds and other wildlife in addition to information on the proposed use of the air strips once construction is completed.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
~~BUREAU OF SPORT FISHERIES AND WILDLIFE~~

1500 N. E. IRVING STREET
P. O. BOX 3737
PORTLAND, OREGON 97208

October 14, 1975

Memorandum

To: EIS Task Force, Alaska Natural Gas Transportation System, Bureau of Land Management (302), Department of the Interior, Washington, D.C.

From: Acting Regional Director, U.S. Fish and Wildlife Service
Portland, Oregon

Subject: (DES 75/44) Draft Environmental Statement, Parts 1 thru 7, Alaska Natural Gas Transportation System, Bureau of Land Management (Barbara Brown's (ES) 7/31/75 memo)

Attached are comments on subject as submitted from areas administered by our Boston, Minneapolis, and Denver regional offices, together with ours and those received from the Alaska Area Office.

Since some of the attachments only recently arrived, and because of the short time remaining for you to consider such comments, we were requested by our Washington office to submit the material as received. However, we believe that the comments satisfactorily reference the location in the draft of items referred to, and may be helpful to you in revising the narrative.

J. H. Reese

Enclosures

UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, FWS, Portland (ES) DATE: October 1, 1975

FROM : Field Supervisor, ES, Portland

SUBJECT: Draft Environmental Impact Statement, Parts 1 through 7, Alaska Natural Gas Transportation System, Prepared by the EIS Task Force, Bureau of Land Management (DES-75/44)

The subject EIS is comprehensive in the discussion of fish and wildlife conditions and impacts. No major controversies are included in our comments. We have pointed out species information and mitigation possibilities not mentioned in the document.

for Nancy J Elliott
John W. Kincheloe

Attachment

D R A F T

MEMORANDUM

To : EIS Task Force, Alaska Natural Gas Transportation System, Bureau of Land Management, Washington, D.C.

From : Regional Director, Fish and Wildlife Service, Portland, Oregon

Subject: Draft Environmental Impact Statements, Parts 1 through 7, Alaska Natural Gas Transportation System, Prepared by EIS Task Force, Bureau of Land Management (DES75/44)

As requested by the Bureau of Land Management, our comments on the above environmental impact statement are as follows:

Generally, the environmental impact statement provides an accurate assessment of the present conditions and impacts of the project on fish and wildlife. The statement highlights the major alternatives of the project. Our comments in most cases involve ommission of information for a particular species of wildlife rather than a major criticism of the document. Though not of major consequence in the building of the pipeline, the lack of information for a particular species during the planning stages could lead to an adverse impact for that species during the construction and operation phases. We hope, therefore, that our comments will be useful in developing the final impact statement for the proposed project.

Page IV-317, b) Grassland biome-Palouse Prairie, line 7: Change M.P. 185 to M.P. 180.

Same, line 12: Add (M.P. 218 to 260) after "border".

Page IV-317, c) Cold desert biome: Some mule deer winter range is present near M.P. 420.

Page IV-320, 3) Fur-bearing mammals, first paragraph, line 5: The number of furbearers (21) does not coincide with the number (14) of furbearers you listed on page IV-321, line 1 of the first paragraph.

Page IV-326, Between paragraph 2 and 3: Canada geese and mallards occur in the Deschutes area south of Bend, Oregon.

Page IV-329, 9) Reptiles and Amphibians: One additional species of snake, the giant garter snake, Thamnophis couchi gigas, occurs along the pipeline route in California. Figure 2.1.4.7-1, Page IV-349, should be changed accordingly and an asterisk placed before it indicating the snake's rare status.

Page IV-351, Figure 2.1.4.7-1: The red-eared sunfish, L. hitholophus, also occurs along the pipeline route.

Page IV-356, 2) Aquatic animals, list of significant changes: Addition of toxic materials to the water resources have also had an impact on aquatic systems.

Page IV-358, after last paragraph: A discussion of sculpin should be added. Sculpin species are also plentiful in cold water streams, where they deposit their eggs under stones in flowing waters. The local success of these species depends upon the maintenance of suitable streambed and water quality conditions.

Page IV-360, C. Unique, Sensitive, and/or Threatened Populations: A discussion of moose should be added. Moose (Alces alces) along the proposed route are found only in the Moyie River Valley, Idaho. These animals winter in the valley at low elevations (Ray Rogers, 1974: personal communication). Moose require specialized habitats--dense forests with numerous wet swamp areas and shallow lakes. Few undisturbed areas of this type remain in the region (Larrison, 1967). There is no mention of bighorn sheep, shasta salamander, and white sturgeon in this section.

Page IV-362, D. Endangered Species: You omitted discussion of the kit fox in this section. The kit fox is a small desert-dwelling fox that reaches the northern limit of distribution in southeast Oregon, where it is believed to be on the verge of extinction (Olterman and Verts, 1972). It is listed as threatened in Oregon.

Page IV-365, Figure 2.1.4.7-3: Fisher, pine marten, and Canada lynx have been omitted from this list.

Page IV-365, paragraph 4: You should point out that in some areas along the present pipeline, in the cold desert and in other similarly disturbed areas, vegetation has taken longer than 10 years to recover.

Page IV-366, Figure 2.1.4.7-3: The scientific name for giant garter snake is Thamnophis couchi gigas.

Page IV-576, Construction actions which could create impacts on wildlife: The use of herbicides will also impact wildlife.

Page IV-576, third paragraph: Sedimentation and streamflow restriction will also have significant potential adverse impacts.

Page IV-579, line 6: Deer-carrying capacity will be reduced by 2,120 animals.

Page IV-580, Figure 3.1.4.7-2: Significant shorebird and pheasant habitat exist along the pipeline route and should be displayed. The Fish and Wildlife Service submitted maps of signficant fish and wildlife habitat for inclusion in the Alaska Natural Gas Transportation System environmental impact statement on January 6, 1975, as requested by the Bureau of Land Management. These habitats are displayed in greater detail on topographic maps. We suggest you include them in addition to the map on this page.

Page IV-589, 7) Other Birds, line 8: This sentence should be qualified. Cavity nesting species like woodpeckers would decrease throughout the life of the project if the right-of-way is kept clear of trees.

Page IV-589, last paragraph: Impacts on the tailed frog should be mentioned. Any alteration of water temperature or flow reduction of the home streams could adversely affect the tailed frog (Storm, 1966). If there is a long-term alteration, the tailed frog would be adversely affected as long as the alteration is in effect.

Page IV-590, 10) Aquatic Animals: This section should include a discussion of leachates. Local degradation of water quality due to the leaching of soluble materials from the organic material should not be a serious problem except in small streams of the more densely forested areas.

Page IV-598, last paragraph, last line: We assume you mean the giant garter snake instead of the giant water snake.

Page IV-599, Figure 3.1.4.7-5: Critical habitat maps for kit fox, longbilled curlew, and mountain caribou have been submitted to the Bureau of Land Management previously by the Fish and Wildlife Service, and should be located on the map. The more detailed maps of critical unique, sensitive, threatened, and/or endangered species habitats should be added to the impact statement.

Pages IV-598 and 600, 11) Unique, Sensitive, and/or Threatened Populations, and 12) Endangered Species: Ten species listed in figure 2.1.4.7-3 are not mentioned in these two sections. The impacts of the pipeline on these species should be discussed.

Page IV-730, 4.1.4 Mitigation Measures: The Authorized Officer of the Bureau of Land Management should have strong regulatory authority in dealing with the permittee. The permittee should not be allowed to proceed with construction of a particular segment until approved by the Authorized Officer. The Authorized Officer should have the authority to suspend any activity of the permittee if that activity poses a serious threat to fish and wildlife or their habitats.

Page IV-741, A. Proposed Monitoring Measures, 2) Environmental coordinator, line 1: Protective measures developed and recorded in the planning and design stages should include but not be limited to an environmental monitoring plan; mining plan if fill materials are used; blasting plan; oil and other hazardous material spill contingency plan; access road plan; plan of proposed methods of how Permittee will be liable for and will compensate for damages to environmental resources; revegetation plan; public access management plan; and hydrostatic testing plan.

Page IV-743, 2) Construction traffic: The use of mobile ground equipment in lakes, streams, and rivers should be kept to an absolute minimum. The permittee should not operate equipment off the pipeline right-of-way, access roads, State highways, or authorized areas unless approved by the Authorized Officer. Regulations concerning equipment operation should be stipulated in the permit.

Page IV-743, 3) Stream crossings: The pipeline system should be located to provide 300-foot-minimum buffer strips of undisturbed land along streams. Also, where necessary because of outfall erosion, stilling basins should be constructed at the outflow end of culverts. Pipeline design for stream crossings should be based on the "Standard Project Flood" as defined in Corps of Engineers Bulletin 52-8, Part 1. For overhead crossings comparable analysis should be made to insure that support structures are adequately protected from the effects of scour, channel migration, undercutting, and ice forces. The pipe trench excavation should stop an adequate distance from the water crossing to leave a protective plug at each bank. These plugs should be left in place until the streambed excavation is complete and the pipe-laying operation is begun. The plugs should not be removed until absolutely necessary, and the trench should be backfilled with stable material as soon as the pipe is laid.

Page IV-744, paragraph 2: Turbidity and siltation problems could be long-term in areas where revegation is difficult. Impacts could be severe on downstream fish spawning areas.

Page IV-750, B. Restoration, 1) Clearing: Hand clearing should be used in areas where it is determined that use of heavy equipment would be detrimental to existing environmental conditions. Logs should not be skidded or yarded across any stream, and no log landing should be located within 300 feet of any water course.

Page IV-753, 6) Waterways: Permittee should provide for uninterrupted and safe fish passage. Any structure or stream channel change that would cause a blockage of fish should be provided with a fish passage structure. Pump intakes should be screened. Abandonded water diversion structures should be plugged and stabilized to prevent trapping or stranding of fish.

Page IV-762, 4) Soils: There should be a discussion of excavated material in excess of that required to backfill around the pipe, and of materials from access roads, haul ramps, berms, and dikes. This material should not be disposed of in a manner which will restrict or divert surface drainage.

Page IV-762, 5) Water Resources, b) Contaminants: Some discussion is needed by the applicant concerning oil spills. Permittee should give immediate notice of any discharge, to the proper authorities. Permittee should provide oil spill containment dikes around hazardous substance storage tanks.

Page IV-763, 7) Wildlife: The predesign route survey should also include big game critical habitats. Construction timing should be geared to avoid critical migration routes when big game are present.

Prior to, and during construction and operation of the pipeline system, the permittee should provide for environmental briefings for personnel connected with pipeline construction and operations.

The permittee should regulate public access of the pipeline right-of-way to protect critical fish and wildlife habitats.

There is little mention of environmental impacts, restoration, and mitigation associated with obtaining materials for filling the trench. The permittee should submit a mining plan. Existing sites should be used whenever possible; and sites adjacent to or in lakes, rivers, or streams should be used only when upland sites are not available. Sites should be shaped to blend with the environment and prevent erosion.

During operations, the permittee should use only nonpersistent and immobile—types of pesticides, herbicides, and other chemicals.

Page IV-773, D. Research and Monitoring: Our report to Bureau of Land Management, submitted January 6, 1975, lists Research Proposal Number 2, page 120, to learn the impacts of gas compressor station operations on fish, wildlife, and their habitats. This proposal should be included in this section.

Page IV-774, E. Liability and Compensation: In our report, submitted to Bureau of Land Management on January 6, 1975, we included on page 106 a discussion of compensation for fish and wildlife habitats. Compensation for fish and wildlife habitats is possible and should be included in this section.

Page [illegible]89, 5.1.4.7 Wildlife, paragraph 1: A major indirect impact to fish and wildlife, especially endangered species, could result from increased off-road vehicle use of presently inaccessible areas.

In addition to the impacts mentioned in this section, there would be a permanent loss of wildlife habitat where the facilities would be located. Forest-dwelling animals such as woodpeckers would also suffer long-term adverse effects.

Page IV-1303, 8) Reptiles and Amphibians: In addition to those species mentioned, the black toad, *Bufo boreas exsul*, is a rare species (California Department of Fish and Game, 1974).

Page IV-1306, second full paragraph: One additional body of water should be discussed. The Grande Ronde River Basin drains the eastern slopes of the Blue Mountains around La Grande. Chinook and coho salmon and steelhead trout spawn in the upper reaches of the Grande Ronde above its confluence with the Wallowa River around La Grande. Rainbow trout are the most abundant resident fish, although Dolly Varden char and mountain whitefish also occur. In the lower Grande Ronde River, where it meanders across the Grand Ronde Valley, flow is slower, water temperatures are higher, and species such as squawfish, suckers, dace, and sculpins dominate (USDI, FWS, 1973). Water degradation resulting from agricultural and other land and water uses has substantially reduced game fish populations.

Page IV-1316, Significant changes, paragraph 1: One other significant change includes addition of toxic materials from mining and industrial wastes.

Page IV-1320, D. Unique, Sensitive, and/or Threatened Populations, last line: The figure should be changed from 2.1.5.7-2 to 2.1.5.7-3, since figure 2.1.5.7-2 is a list of all species found along the proposed pipeline route.

Page IV-1321, Figure 2.1.5.7-2: The following species should be added to the list: Mountain caribou, *Rangifer tarandus mountanus*; grizzly bear, *Ursus arctos horribilis*; and Malheur shrew, *Sorex preblei*.

Pages IV-1677 and IV-1699, Figures 3.1.5.7-1 and 3.1.5.7-3: The Fish and Wildlife Service submitted maps of significant fish and wildlife habitats for inclusion in the Alaska Natural Gas Transportation System environmental impact statement on January 6, 1975, as requested by the Bureau of Land Management. These habitats are displayed in greater detail on topographic maps. We suggest you include them in addition to the maps on these pages.

Page IV-1835, 4.1.5 Mitigating Measures in the Proposed Actions: The same mitigation measures proposed for the San Francisco pipeline should also be implemented for the Los Angeles pipeline.

Page IV-1874, 2) Hydrostatic Testing: Where feasible, water should be pumped from previous hydrostatic test sections to the next.

For citations, please refer to our references submitted January 6. 1975.

Regional Director

MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6
UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, FWS, Portland, Oregon DATE: OCT 8 1975

FROM : Regional Director, FWS, Boston, Mass.

SUBJECT: Review of draft environmental statement, Parts 1 thru 7, "Alaska Natural Gas Transportation System", prepared by the EIS Task Force, Bureau of Land Management (ER-75/44)

We have reviewed the subject draft statement in response to the Washington office Division of Ecological Services' memorandum of July 31, 1975, and have found it adequately presented insofar as those portions of the proposed pipeline route which extend into Region 5 are concerned; i.e., West Virginia and Pennsylvania.

The only comment we have concerns the Table of Contents in the three Volumes of Part V Northern Border portion of the statement. Please note that Sections 7.1.3.7 (page V-1434) thru 8.1.3.4 (page V-1519) are omitted in the Table. It appears that another page of contents should be incorporated to include the above-mentioned omission following Section 7.1.3.6 on page V-xxx of the Table.

The opportunity to provide input in the preparation of this statement as well as to review it is appreciated.

Howard N. Larsen

JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6
UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, USFWS
Portland, Oregon DATE: OCT 3 1975

FROM : Acting
Regional Director, USFWS (P&A-TA)
Twin Cities, Minn.

SUBJECT: Comments on the Alaska Natural Gas Transportation System Draft EIS

Attached are this Region's comments on the subject EIS. They were prepared by our staff and do not include comments or thoughts from organizations or individuals outside of the Fish and Wildlife Service.

CEFaulkner

2

II-1397, para. 1 - esthetic and archeological values are now deemed to be great enough to seriously affect the selection of the alternative route, whereas on the prime route they are made to appear insignificant.

para. 2 - distinctive recreational and esthetic values appear for the first time in the statement. Just what are these that make them greater in appeal then those on the prime route?

II-1398, para. 3 - even though no applications are pending, this alternative should still be fully evaluated.

II-1401- much of the data presented here apply to the prime route as well, and should have been developed during that discussion. Bias in the description of the prime route versus alternatives is apparent throughout this section.

II-1404, para. 4 - the prime route has more than 94 right-angle river crossings, but no problems are anticipated there.

II-1408, para. 2 - the pipe would have to be buried beneath the active layer no matter where constructed.

II-1418, para. 1 - coastal vegetation supplies a good part of the winter range for muskox on the ANWR.

II-1420, para. 2 - the word "occasionally" is misapplied here. No definite information is available on numbers of this discrete population of bear using the prime route for denning. This problem should be thoroughly researched prior to commitment of this area for pipeline construction.

II-1421, para. 2 - this paragraph on polar bear should be used in discussion of the prime route also.

II-1422, para. 3 - this paragraph, with minor revision, is applicable to the prime route and should appear there.

II-1426, para. 1 - this information should be stated as such in the snow goose discussion on the prime route.

para. 3 - This is an intriguing study in psychology. Now we find that "major breeding populations will be completely lost" if the coastal alternate is chosen. If the prime route is selected, these losses "could" or "may" occur. The writers should attempt to write as objective professionals. Every description of the prime route is couched in hedged phrases, with hidden innuendos and understatements rampant. Conversely, the descriptions of the alternatives are painted with dark foreboding. If the writers prefer the subjunctive mood to depict the prime route, they should use it also for the alternatives. They are in no better position to predict with absolute certainty the consequences of any of the routes.

II-1427, para. 3 - the consequences to the fish in the 90+ streams crossed by a chilled pipe with frost bulb should be explored.

II-1433, para. 2 - a double pipe could eliminate noise pollution and coastline construction, except for actual installation of pipe in the Beaufort Sea.

3

II-1434, para. 2 - here again, aboriginal trade routes receive the consideration they should have had in the discussion of the prime route.

II-1437, para. 3 - elimination of compressor stations by looping would resolve problems of noise.

II-1438, para. 2 - the Department of the Interior should present its own information and conclusions, rather than rely solely on AAGPC. The DES makes it appear as though the Department with its many bureaus has no expertise concerning this project. Much has been learned as a result of the Alyeska experience which could be brought to bear on this proposal.

II-1461, para. 2 - it should be expressly stated that this route also crosses the ANWR.

II-1462, para. 2 - a looped line would eliminate all compressor sites.

II-1464, para. 2 - more detail is needed. The impact on the Clarence Plain area states that ice-rich or permafrost areas can be avoided. The means of accomplishing this should be presented.

II-1476, para. 1 - No drilling or soil sampling has occurred in this area.

II-1477, para. 3 - The assumption that "snowfall will not be adequate" applies equally to the prime route, although it was never stated so succinctly in the discussion of that route.

II-1480 - 1481 - here it is acknowledged that the impacts listed apply equally to the prime route, although they were never presented so clearly during that discussion.

II-1482, para. 1 and 2 - again, we are offered an elaborate discussion of adverse impacts which were glossed over with reference to the prime route, although they apply equally to all routes.

II-1519, para. 4 - too often, cost figures ignore major environmental impacts which, if figured on the same basis, would be astronomical.

II-1537, para. 3 - the reference to "flat-floored valleys 1 to 2 miles wide" does not apply to portions of the Canning route. Steep (90%) steep slopes occur along portions of this route, which would require constructing an artificial bench for pipe burial, subject to mass soil movement and slides, or the pipe would have to buried in the river.

II-1539, para. 1 - the reference to the "high divide" between the Canning River and the Marsh Fork misleads the reader, by implying that a great difference in elevation exists between the two. The "high divide" in this instance is approximately 3,300 feet in comparison with the river floor at 3,000 feet, making a difference of 300 feet.

II-1555. Permafrost. The total discussion needs to be broadened to include what is actually there. If this isnot known, it should be so stated.

II-1557 - the implication of the map is that the TAPS route is free of permafrost.

II-1563 - references should be listed for source of the data used in the table.

II-1566 - include seismic exploration and oil drilling in the listing of human activities, since the results of these are evident to anyone flying this route over State lands. This discussion should be included in the prime route analysis also. The unsupported conclusion is that the interior alternate is more susceptible to erosion and gullying than the prime route, an effect produced largely by spending more time on the subject here and neglecting it in the earlier discussion.

II-1567, para. 3 - these paragraphs referring to seismic trails created by man which have left "vivid scars" should be made part of the prime route discussion. This is a good example of the use of emotional words (vivid scars) when describing an alternative, as opposed to the blurred and aoftened images used for the prime route.

All seismic lines constructed during 1968 heve resulted in erosion and gullying. Even one track made by vehicles crossing between seismic lines over the frozen, snow-covered ground is becoming more visible each year. The total discussion concerning erosion, landslides, slumping and subsidence from 1561 to 1568 needs to be expanded and made a part of the prime route diacussion.

II-1568, pare. 1 - the mud flow on the Canning River is mentioned, but no reference is made to the soil slip and mass erosion occurring along the prime route at the Katakturuk River crossing at MP 87. The whole hillside along the west bank of the Katakturuk River is underlain by an ice wedge and the bank some 200 feet high is slipping into the river, a process which was aggravated during the soil drilling program when hot compressed air was used. A large caribou lick is located at the top of the hill. These facts should occur in the prime route discussion.

II-1586, para. 1 - This information on endangered plants should have been brought out in the discussion on the prime route.

II-1593, para. 3 - number of animals today could be-estimated at 140,000 to 160,000. Those reported in 1972 are based on what actually was seen and photographed at that particular time and place.

II-1597, para. 1 -excellent information on Dall sheep. Equal treatment should be given sheep along the prime route.

II-1600, para. 2 - The precise location of the muskox "east of the Canning" should be offered. Present numbers have reached those of the original transplant, most of which are located along the Prime route. Their value along the interior route has been played up here anddowngraded along the prime route.

II-1605, para. 3 and 4 - this statement should be broadened. The Beaufort Sea polar bear population is a discrete population have no direct ties with the Chukchi Sea population or the Canadian population, as has been verified by tagging and returns. Due to small numbers, this population could easily be affected by adverse impacts such as winter construction and compressor noise pollution the total length of the lines wherever laid.

II-1619, para. 1 - the information here is incorrect. At this time, the United States is one of two nations which have not ratified the agreement, the other being theSoviet Union. Canada, Denmark and Norway have already signed. This serious error should be corrected. The polar bear agreement is already in effect for those three nations which have signed. Expectation is that the US will sign in the near future.

II-1670, para. 4 - the same weather conditions apply to the prime route in large measure.

II-1671, para. 3 - the same delays could apply to the prime route.

II-1673, para. 2 - the same environmental damage will result from the prime route, but the impacts of that action were not brought together in a single discussion as here.

para. 4 - thermal erosion, once started, will continue indefinitely.

II-1675, para. 1 - with the active layer deeper, revegetation would take place quicker, thereby eliminating the scar and preventing surficial erosion.

II-1677, para. 2 - ice lenses or wedges are also visible at the Katakturuk River crossing on the prime route. The same conditions apply there.

II-1680, para. 2 - it is finally admitted that revegetation will be a problem with thawing, settling and erosion compounding it.

II-1683, pera. 2 - all information here is applicable to the prime route.

II-1684, para. 2 and following - such concise statements should also be made for the prime route instead of scattering and underplaying them as has been done. A similar concise summary of impacts is needed for the prime route as has been recorded for the interior alternative.

II-1687 and following - the tone of writing used here is altogether different from that used in the description of the prime route.The reviewer must be constantly aware of the bias of the writers in an attempt to obtain an accurate picture.

II-1690, para. 2 - it is finally admitted that "seeding and growing of grasses in the arctic region are now in an experimental stage," although the further implication is that this will only affect revegetation attempts along the interior route. Of course, such attempts along the prime route will fare no better, but this is not mentioned.

II-1691, para. 2 - again, these same snow gathering methods will be used for the prime route.

II-1705, Caribou. The same impacts apply to any alternative except the offshore.

II-1793, Timber-Agriculture. Commercial stends averaging 3,000 to 5,000 board feet per acre are not considered sufficient logging risk unless the value of wood fibre increases on the world market. Compare these lands with those on the Kenai National Moose Range, where stends average 7,000 to 10,000 BFA and have ready access to market. Even today these are too costly for logging purposes. These lands have beenpromoted for cutting to improve moose habitat, yet each organization which has attempted a commercial enterprise has failed, except for a few family sawmills which operate sporadically.

II-1750, para. 3 - the proposal for a gas line to follow the TAPS corridor set aside by the Congress would accomplish these same ends, as would any of the alternatives.

II-1874, para. 1 - now the estimated numbers of the Porcupine caribou herd have climbed to 140,000, up from the estimates of 93,000 to 115,000 given for theprime route. The 140,000 figure is closer.

II-1947, para. 2 - once again, the same applies to the prime route and should be concisely stated.

II-1949, para. 2 - this soil type is found throughout the Arctic Plain. This same discussion should be presented for the prime route, including the remark concerning "change in volume and loss of strength" of these soils when thawed.

II-1950, para. 2 - "Inadvertent disruption of the permafrost regime here could lead to the development of large, new thermokarst lakes." The same applies to the prime route and should be so stated in that discussion.

II-1982, para. 3 - Thia discussion of the development of frost bulb and resulting impacts should be applied to the prime route, where 94+ streams and rivers will be crossed. The fects have been understated for the prime route.

II-2028, para. 2 - "Under worst-case conditions, up to 75% of the traditional nesting sites of the peregrine falcon will be lost due to human and industrial disturbance." Why were not statements made so effectively for Dall sheep, polar and grizzly bears along the prime route?

II-2032, para. 2 - culverts would also be part of the prime route, with similar impacts.

SUMMARY STATEMENT

The Fairbanks alternative is the logical one. Among its favorable attributes are: established pipeline corridor, road access, year-round construction, no need to cross presently undisturbed lands, and a great amount of information gleaned from present construction.

Few environmental impacts would be involved which have not been met by the oil pipeline presently under construction. A combined corridor for oil and gas transportation, with options for railroad and highway, would result in advanced long-range planning for Alaska.

COMMENTS ON THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM DRAFT EIS

GENERAL COMMENTS

The statement is characterized by generalities and broad assumptions apparently based on textbook reviews of the flora and fauna native to the affected geographical areas. There is very little quantitative information presented regarding wildlife losses resulting from either initial construction or operation and maintenance of the project. This is understandable, however, when one realizes that the exact alignment of the pipeline, extent and location of access roads, borrow areas, disposal areas, and storage areas are unknown. While this is understandable, it makes the preparation of an adequate EIS nearly impossible.

SPECIFIC COMMENTS

Part I - Overview

3.OV.7 Wildlife

Page 379 - Delete reference to "white-tailed" geese. Substitute "white-fronted" geese.

4.OV.3 Additional Mitigating Measures

D. Wildlife - page 442, 2nd para.

States listed which indicate relocation to avoid existing wildlife management areas do not include Minnesota, where a number of state-owned wildlife areas would be impacted.

5.OV.2 Unavoidable Effects

Page 471 - 2nd para. -"... destruction of habitat will cause reduction or relocation of wildlife." This statement is partly true. Destruction of habitat may cause a temporary relocation of wildlife with a permanent reduction thereafter.

Part V - North Border

Volume 2

Section 2.1.3.6 (C, 2 - Corn Belt)

This section should include a detailed description of the plant makeup of the scattered wood lots and small-stream riparian vegetation. Because of the scarcity of this type of wildlife habitat in the corn belt region, its importance to wildlife is tremendous and deserves greater elaboration.

Section 2.1.3.6 (D - Unique, Sensitive and/or Threatened Ecosystems)

Earlier on page 626, it is stated that today 90 percent of eastern Indiana and central Ohio is devoted to crop production. That leaves less than 10 percent remaining in forest land (wood lots) when other land uses are subtracted. For an area that was once totally forest, any wood lot remaining should be treated as a unique ecosystem.

Page 636 - 2nd para. - Replace ecology with environment. Ecology is a branch of biology, while environment in this case would be all the conditions that have an influence on the potholes.

Section 2.1.3.7 (A, 1 - Terrestrial)

The discussion of terrestrial wildlife populations is exceedingly general. Lists of key species should be augmented with quantitative information regarding current population sizes as well as future trends.

Section 2.1.3.8 (Introduction.

Contrary to the statement in the text, wildlife existing along the pipeline route were not described in detail. Those species whose ranges encompass the proposed route were listed without including details regarding the condition of the populations or the major habitat components essential to their survival.

Section 2.1.3.8 (A - Major Ecosystems)

The statement should include a discussion on the smaller ecosystem units found within those larger units described in the text. Small scattered natural ecosystems such as flood plains, wetlands, potholes, and wood lots are the backbone of the wildlife populations found in the more agriculturally-oriented states. The statement should stress the importance of these smaller areas rather than concentrating on the larger climax communities once found in this region.

Volume 3

Section 3.1.3.7 - Wildlife

The terms, "significant drop, significant reduced and significant numbers" are used throughout this section. This is an attempt to avoid using quantitative data. The writer cannot say the animal populations will be lowered by a significant amount without knowing their habitat requirements and the expected populations following construction.

This section repeatedly refers to the "temporary" nature of the wildlife losses associated with right-of-way clearing operations. The projected recovery of wildlife populations in these areas is based on the assumption that vegetative associations similar to those destroyed will re-establish on the disturbed soils. However, Section 3.1.3.8 states that the "reconstituted site will differ from that existing before disturbance." In view of this, it seems unlikely that these areas will regain their pre-construction structure and support the same pre-project wildlife populations, particularly when right-of-way maintenance plans call for the retardation of woody growth throughout project life.

Section 3.1.3.7 (b - North Dakota)

Page 1071 - 2nd para. - The second sentence implies that because of the pipeline, the northward expansion of the bighorn sheep will probably be limited. No data supports this statement.

Section 3.1.3.7 (A, 1, c - South Dakota)

Aside from the obvious effects on waterfowl mentioned in the statement, any significant reduction in wetland quality will reduce the local population of those species (reptiles, amphibians, small mammals, furbearers) dependent on that type of habitat. Although recovery by the more prolific species may be rapid, others, particularly predatory species, will lag, and, depending on the degree of long-term effects on the wetlands, may never fully regain pre-project numbers.

This section makes no mention of the irretrievable loss of annual wildlife habitat associated with project construction. This loss is particularly significant in the wooded areas of the corn belt region and the wetlands in the prairie pothole country.

Section 3.1.3.7 (A, 1, d - Minnesota)

Minnesota wetlands are fringed by permanent pasture and woody growth is true but incomplete. Many of the privately owned wetlands and virtually all of the state-owned wetlands are fringed with grassy, weedy lands of significant value for nesting purposes and escape cover.

Page 1083 - 2nd para., line 4 - "The remnants of nature wildlife ..." should be "natural" wildlife.

Section 3.1.3.7 (A, 2 - Aquatic Wildlife Habitat and Species)

Page 1098 - last two sentences - Mobile organisms may move from an impacted site but they will be forced into habitat already occupied; therefore, the net effect is a reduction in density or number of organisms. The statement in the last two sentences implies that these life forms take up residence elsewhere and all is fine. This ignores theories of carrying capacity, territories, and other aspects of population dynamics.

Section 4.1.3.4 (G, 1 - Protection of Fish and Wildlife)

Page 1324 - para. 2 - It is suggested that if wildlife areas are destroyed, the applicant could purchase replacement areas. How in the world will this mitigate the loss of valuable habitat. The state will still be short the lost area with its resultant decrease of wildlife. The top priority should be not to damage or destroy the existing units. A second alternative would be to purchase a farmed area which previously had a marsh and then restore the marsh and associated habitat. This way, there would not be a net loss as there would be with the current suggested alternative.

Section 4.1.3.4 (G, 2 - Acquisition of Land and Waters)

Page 1326 - Lands purchased or taken in easement by Fish and Wildlife Service or States for the purpose of waterfowl production cannot be mitigated by purchasing or leasing other lands and waters. Transferring the ownership of potholes does not produce more waterfowl; however, it will preserve or prevent a landowner from draining. Adequate replacement is possible through management by taking a low value area and increasing the carrying capacity. It may be of greater value to purchase or lease drained potholes and restore by plugging ditches or outlet.

OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Region 1
Portland, Oregon (ES)

DATE: SEP 18 1975

FROM : Area Manager
Bismarck, North Dakota

SUBJECT: Alaska Natural Gas Transportation System - Draft EIS

We have briefly reviewed the sections of Part V pertaining to the North Dakota segment. Our comments follow:

General Comment

Organization of the material on wildlife by state, both in the table of contents and the text, would facilitate review.

Specific Comments - Part V

Page 571 "No areas of thermal pollution are known in waters along the route." In North Dakota four existing electric generating plants contribute thermal pollution to the Missouri River between the two proposed crossings.

Page 612-613 Subirrigated Range Site Description

The two sentences describing the occurrence of Switchgrass, Indiangrass, Canada Wildrye and Prairie Cordgrass appear to be in conflict with each other.

Page 635 Unique, Sensitive and/or Threatened Ecosystems

We suggest the inclusion of the Killdeer Mountains, the upland breaks and river breaks badlands ecosystems and the native prairie-upland grassland and rolling grassland ecosystems in this section. We agree with the inclusion of the flood plain forests.

Page 655 Line 18 states "with parts (of the prairie pothole region) producing over 20 ducks per square mile as shown in Figure 2.1.3.7-2." This figure refers to breeding densities and not production. Production in the range quoted is very low. The potential of this region has been illustrated more accurately as in the neighborhood of 500 ducks per square mile.

Page 612-613 Federal and State Reserves

The fourth paragraph, on Fish and Wildlife Service lands, is very poorly written. It makes little distinction between the four principal kinds of areas (fee owned NWR's, easement NWR's, fee owned WPA's and easement WPA's) present or encroached upon by the proposed route. Figure 2.1.3.11-4 (Public Lands within the Western Study Area) fails to list any FWS lands.

North Dakota lands in which the Fish and Wildlife Service has an interest as of June 30, 1975, are as follows:

National Wildlife Refuges - Fee Title.Ownership - 188,790 acres
National Wildlife Refuges - owned by CE and managed by FWS - 14,775 acres
National Wildlife Refuges - Easement Interest - 72,625 acres
Waterfowl Production Areas - Fee Title - 188,616 acres
Waterfowl Production Areas - Easement Interest - 730,000 wetland acres

In North Dakota only easement production areas (privately owned land) are encroached upon by the proposed route.

Page 1074 The last paragraph refers to a black-footed ferret sighting in Newton County in 1971. This should be Morton County. This same section omits potential impacts on golden eagles. Two known nest sites are close to the proposed right-of-way in McKenzie County and could be disturbed by construction activity.

Page 1327 3. Acquisition of Rights in Lands and Waters

The first paragraph calls for wetland easements which are unavoidably drained to be replaced with easements on comparable wetland areas. This approach is not desirable since it results in a net loss of the wetland resource. Wetland development or restoration is a preferred method of compensation in such cases.

Page 1613 Consultation and Coordination

Contacts made in the States of North and South Dakota and Montana are not included in this section. These contacts were submitted to the team.

Alternate Routes

Lines 4, 5 and 6 are all greatly superior to the applicant's proposed route from the standpoint of impacts on wildlife resources in North

Dakota. North Dakota has the greatest impacts of any state on the proposed route. Our recommendations among these three routes, based on the least impacts to wildlife, are in descending order: Line 5, Line 4, Line 6.

James P. Gritman

cc: Regional Office, Denver, CO (ES)
Billings, Pierre, Kansas City AO's

UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Region 1
Portland, Oregon (ES)

DATE: September 29, 1975

FROM : Area Manager, South Dakota - Nebraska,
Pierre, SD

SUBJECT: Alaska Natural Gas Transportation System - Draft EIS

After having briefly reviewed those sections of Part V of the subject EIS dealing with South Dakota, we offer the following comments.

Section 1.1.3.2-1, Projects Location Map, Page V-022

The city of Aberdeen is plotted in the wrong location. It should lie north of the proposed pipeline. The same error was also noted on other maps.

Section 1.1.3.6, Construction Procedure, Page V-078

The statement, "measures will be taken to minimize disturbance to the existing environment.", conflicts with the statement on page V-080, "fire breaks will be graded along the edge of right-of-way to prevent the spread of fires."

It is suggested that either close mowing or controlled burning be used to prepare fire breaks as this would minimize destruction of native habitat and reduce erosion.

Section 2.1.3.7C, Unique, Sensitive, and/or Threatened Populations, Page V-686

Whooping cranes are not mentioned in this section. This endangered species occasionally frequents the area during migration, and since microwave towers may have an adverse impact on the cranes, they rate some discussion in this section.

This section also states "Other species whose status is as yet undetermined, but about which there is concern and which could be in the pipeline area include: the ferruginous hawk." There is no question that the ferruginous hawk is present in the area and that a number of nesting sites will be disturbed.

Section 2.1.3.9, Page V-709

The last line states "a large section of the Oahe Irrigation Unit of the Bureau of Reclamation is crossed in Brown County, South Dakota."

Actually, at this time the project is only authorized with no construction as yet in Brown County.

Section 2.1.3.13, Figure 1, Parks and Recreation Areas, Page V-878
The newly established Ordway Memorial Prairie[1] in South Dakota is excluded. Data needed to complete the table is as follows: McPherson County, South Dakota; Nature Conservancy; 7,600 acres; Native Prairie; New Area; Potential for Expansion: excellent.

Section 3.1.3.7 - Construction and Operations Impacts
This section contains no reference to the recently established Ordway Memorial Prairie west of Leola, South Dakota. This is understandable as the preserve came into existence after the draft EIS was prepared.

Since several miles of the proposed pipeline cross this unique area, recommendations are needed to maintain its natural conditions Of particular concern is the preservation of Ferruginous hawk nesting sites. All things considered, it would seem advisable to route the pipeline around this area.

A map of the area is attached for your reference.

Section 3.1.3.7C (South Dakota), Paragraph 1, Page V-1075
"There are 43 potholes on U.S. Fish and Wildlife Service Waterfowl Production Area Easements." The figure 43 is in error. It should be 57.

Section 3.1.3.13, Page V-1186, Recreation and Esthetic
The newly established Ordway Memorial Prairie should be included in this section.

Section 4.1.3.4, Pages V-1323 and 1332, Additional Measures
A discussion of the Ordway Memorial Prairie should be included on the above designated pages.

Section 5.1.3.1, B3, Page V-1370, Adverse Effects Which Cannot Be Avoided
This section states "the disposition of surplus materials displaced by the pipeline will depend on government stipulations and landowners' wishes."

If the disposition of surplus materials is left to the discretion of private landowners, especially in the prairie pothole region, chances are great that many wetlands will be filled. Provisions should be made to prevent the filling of wetlands with project surplus materials.

---

[1] Dedicated as the Samuel H. Ordway, Jr., Memorial Prairie.

On page V-1382, perhaps more discussion or emphasis could have been given to the loss of native prairie and the varying degree in which it will impact the western range area.

Section 8.1.3.7, Page V-1568
There is a typographical error in the last paragraph. Additional benefits should total 254 million instead of 254 billion.

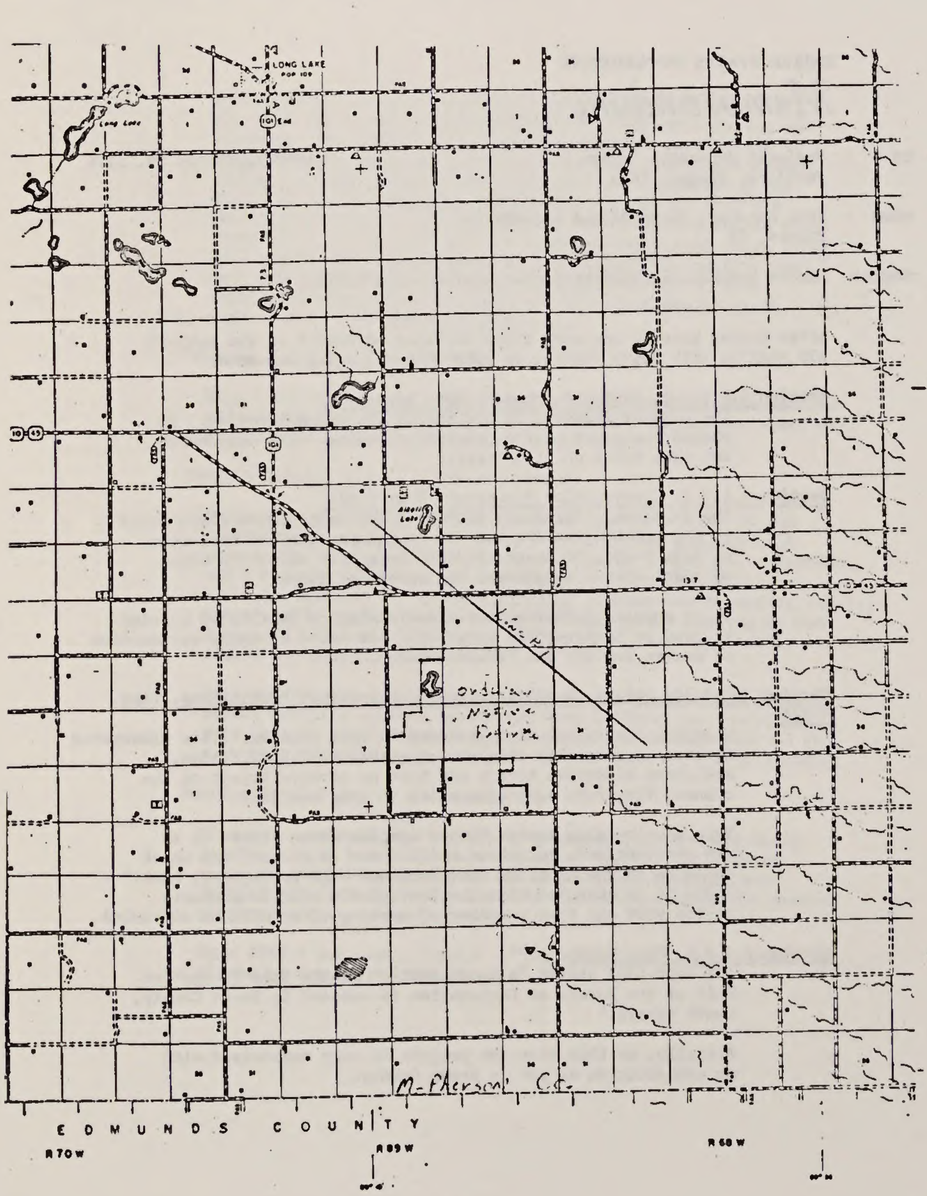
Section 8.1.3.8-6, Page V-1583
The Upper Mississippi River Wild Life and Fish Refuge has been omitted under alternate Line 3.

Alternate Routes
Lines 4, 5, and 6 would preclude any impact on the valuable wetland resource of South Dakota. Since wetlands are a declining resource, and any adverse impact could be significant, any one of these three routes would be preferred.

If any questions should arise or if clarification is needed, please contact Bob McCue, FTS 605/224-8226.

Attachment

cc: Regional Director, Denver, CO (ES)
Billings Area Office
Bismarck Area Office
Kansas City Area Office
Waubay NWR
file



OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6
UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Region 1, Portland, Oregon (ES)
DATE: September 26, 1975

FROM : Acting Area Manager, Billings, Montana (ES)

SUBJECT: Alaska Natural Gas Transportation System - Draft EIS

We have reviewed Part V of the Draft EIS pertaining to Montana.

GENERAL COMMENT

The Draft EIS appears to have adequately incorporated the general impacts to wildlife of the "Proposed Route" gas pipeline across Montana. Better organization of the presentation of these impacts, state by state, would be desirable.

SPECIFIC COMMENTS - PART V

Page 545 - Figure 2.1.3.5-24 - Average annual discharge of the principal rivers of Pennsylvania. This figure is headed at the top as, "Source: Modified from Water Resources Investigations in Montana," is evidently a typographical error as rivers in graph refer to Pennsylvania.

Page 686 - C. Unique, Sensitive and/or Threatened Populations. While the presence of whooping crane is mentioned on page 669 under terrestrial species, it should be reiterated under the above heading because of its seasonal occurrence along the PR in Montana.

Page 1020 - "The Proposed Route will cross about 96 miles of native rangeland and disturb about 1,200 acres." In actuality, disturbance will occur to approximately 1,400 acres of native rangeland when microwave tower sites and booster station sites are taken into consideration.

Page 1021 - Under the heading of Construction Impacts (Montana), there should be mention of the difficulty of revegetating 3 miles of fragile sandhill-grassland vegetative type crossed by the PR.

On the same page reference is not made to the long range loss of arid sagebrush component of the Northern Great Plains which will be virtually impossible to restablish to its original character.

Page 1049 - " . . . total loss of wildlife habitat during the construction period would be approximately 105 acres . . . " Total wildlife habitat loss in this section would be far greater than indicated by this figure; but in this paragraph, "loss" relates to waterfowl habitat which should read approximately 147 acres.

Page 1054 - " . . . revegetation can be successfully accomplished in 2 years . . . " It should be stressed that due to soil characteristics, extremes of climate, and low precipitation, effective revegetation would be questionable through much of the PR in Montana. This paragraph does not differentiate between revegetation possibilities in Montana and North Dakota.

Page 1056 - "Once the pipeline is buried, it is intended that most of the land through which the pipeline passes will revert to its previous use and condition." In reality 40 feet of the original 100-foot ROW will remain as a permanent access route for maintenance and will not revert back to its previous use.

Page 1066 - "Canada geese and white-fronted geese nesting close to the route on Manning Lake . . . " This line should read Canada geese as the only nesting species of goose in the area.

Page 1067 - "Some 270 acres of critical cover for pheasants would be destroyed . . . " should read approximately 165 acres.

Page 1381 - In the chart "Wetlands Crossed by Proposed Route" under State - Montana: Number of Wetlands should read 65 instead of 48 and Acreage in ROW should read 121 instead of 106 acres.

Alternate Routes

Lines 4 and 5 do not cross Montana and, therefore, are preferred by us over the PR.

Lines 1, 2, 3, and 6 all would miss the Manning Lake Marsh, but lines 1, 2, and 3 would cross the Missouri River as well as the fragile Missouri River Breaks Habitat. Therefore, lines 4, 5, and 6 are preferred over the proposed route.

James C. Salinas

MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6
UNITED STATES GOVERNMENT

Memorandum

TO : Regional Director, Region 1, Portland, Oregon (ES) DATE: 9/19/75

FROM : Acting Area Manager, Kansas City, MO

SUBJECT: Alaska Natural Gas Transportation System--Draft EIS

We have completed our review of Part V, Volumes 1-3 of the EIS covering the Northern Border segment. Our comments pertain to those portions of the routes which would cross Iowa.

General Comments

The Draft EIS adequately describes the impact of the proposed action on the fish and wildlife resources of Iowa.

James W. Salyer

cc: RD, Denver, CO (ES)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
Alaska Area Office
813 D Street
Anchorage, Alaska 99501

MEMORANDUM OCT 10 1975

TO: Regional Director, FWS, Portland, OR.
Acting
FROM: Area Director, FWS, Anchorage, AK

RE: Comments on ER 75/44 - Alaska Natural Gas Transportation System - Alaska Section

The following are the remarks of the dozen professional biologists who reviewed portions of this statement. While we realize that the length of the comments makes them difficult to handle, we feel that their presentation here is justified, given the size of the statement itself.

These comments express very well the inadequacies of the statement with respect to implications for the Arctic National Wildlife Range, which stands to be severely damaged. Our judgment is that the statement does not come close to defining or discussing the extent of impact which will accrue to this 9-million-acre refuge renowned for its remote and unspoiled beauty.

The statement places the very serious obstacle of sheer bulk before persons interested in reviewing impacts to the Arctic NWR. In addition, there is a great deal of repetition throughout the document.

Impacts to the Arctic NWR are uniformly so understated and undramatically drawn that their effect is lost. The statement ignores the fact that 133.35 miles of this project lie within the Range, while only 61.45 miles are on State land. The implication, by emphasis, is that the Range is little affected. This bias occurs throughout.

~~Impact evaluation must be measured in the context in which an impact occurs~~
The Arctic National Wildlife Range is an area of international concern, the home of internationally recognized species such as the polar bear and the peregrine falcon. In this statement, facts on the Range are buried and scattered. For the public interest, information on the Range and the impacts upon it from this project should be drawn together into a single section to which interested readers could refer.

In addition, there appears to be a misunderstanding throughout the statement concerning the term "ecosystem". This term is one of convenience coined by biologists to arbitrarily describe an area of study where organisms interact with each other and with the abiotic environment. Thus, an ecosystem has no precise boundary definition and can range from an interaction of microbes in a drop of water to the entire globe. A drainage system is usually a logical choice to be called an ecosystem. Therefore, it makes little sense to state that in relation to the size of most ecosystems affected, losses will be minor. Millions of ecosystems will be totally destroyed. Other systems will be drastically affected and others created where none now exist.

Alternative routes to the northern route are not discussed adequately. Throughout the Alaska section, the innuendo exists that the choice to be made is between the prime route or no gas delivery. Wording is carefully chosen to give the appearance that hardship and personal distress to millions of persons living on the East Coast is the inevitable outcome of failure to choose the prime route. This unprofessional bias should be expunged from the final; it is an insult to the government agencies responsible for the decisionmaking and to the American public who correctly look to those agencies for professional guidance and integrity.

We offer a general listing of topics inadequately covered in the Alaska section.

1. Approximately 120 streams will be crossed during construction of the prime route. Methods of work pad and access road construction with provisions for fish passage were not discussed, nor was timing of construction to allow for critical life history requirements of fish populations.

2. Planned for construction are 114 miles of permanent and temporary access roads. Required will be 3.1 million cubic yards of gravel. A great amount of this material will probably come from stream channels. Sites and plans for the stream washing operation are not discussed.

3. The use and location of disposal sites was omitted. It is doubtful that the material sites can all be used as disposal sites.

4. Means of handling human-animal problems was not mentioned.

5. A plan for containing and solving fuel spills was not provided.

6. Implementation of erosion control, rehabilitation, revegetation and cleanup during and following construction should be made a part of the initiel program.

7. It is not made plain that the area of use will be more than ten miles wide as a result of hauling snow, gravel, water, etc.

8. ~~Provisions for animal crossings were not mentioned.~~ The permitted miles of open trench for pipe burial during critical times of year for animal passage should be identified.

9. Information is lacking concerning the ultimate disposal of the pipeline and related facilities. Whether everything is left in place or removed, impacts will accrue. This should be discussed.

10. The applicant usually states what will not be done rather than what will be. Only the vaguest and most general impression is presented concerning the size and location of facilities which will have tremendous effects on the environment. Many problems are noted, but no solutions are offered. Without knowing how the applicant plans to solve the problems, we cannot judge impacts.

The U. S. Fish and Wildlife Service is charged with administering lands under its control in a responsible and knowledgeable manner. We do not believe the Alaska section of this environmental statement provides adequate unbiased information to enable decisionmakers to judge the impacts to the Arctic National Wildlife Range resulting from the project.

We believe the project and its far-reaching consequences for the Range and the Service missions there should be thoroughly expounded in a separate section. Only by this sort of emphasis can the proper perspective be given to the Alaska portion of the pipeline, two-thirds of which is proposed for siting on the Range.

SPECIFIC COMMENTS: Executive Highlights

Page 11, para. 1 - caribou calving grounds will be continually disturbed during the lifetime of the pipeline and afterwards if the environment is not restored to as near natural as possible.

page 11, para. 2 - present mortality rates of the Porcupine caribou herd are probably taking at least 90% of the annual increment. Expected increased harvest along the Dempster Highway and on the Alaskan winter range will cause the gradual reduction of this herd under present hunting regulations. If coupled with several back-to-back failures on the calving grounds, this herd could well be reduced to the point where uncontrollable mortality factors could cause a severe population crash. Stress factors such as a compressor station, airplane or truck are seldom observed to be significant to caribou. Little research has been done, however, to find out what internal disturbances are experienced.

page 21 - this entire discussion of Alternatives is misleading. The Secretary may defer a decision on this particular proposal and then permit another consortium to build an all-Alaska pipeline. Particularly paragraph 3 is deceptive in its dwelling on the misconception that Alaskan gas will not reach markets Outside unless it is via the proposal.

SPECIFIC COMMENTS: Volume I Overview

I-10, para. 1 - "...up to 41 million cubic feet per day will be sent to the first 4 pump stations of the Trans-Alaska oil pipeline." The discussion should include an explanation of how this will be delivered. It would also seem logical merely to continue delivery systems south to Big Delta and then eastward along the Alaska Highway. This would avoid nearly all of the problems associated with the proposal.

I-17, para. 1 - A better, more precise description of the proposed route is required before impacts can be adequately assessed.

I-25. A more precise map of the proposed route is required. We suggest a fold-out map with more detail.

I-21, para. 3 - Camden and Demarcation Bays are both prehistoric and historic sites, and should be stated as such. Development of facilities at these locations will require extensive archeological investigations.

I-45, para. 4 - "Electrical power must be provided for each valve and a power line will be run from the nearest existing source..." This is an example of one of the hidden impacts that receive no treatment in the ES. The reviewer has no idea what is meant by "the nearest existing source". This could mean literally hundreds of miles of poles or towers. The treatment here is inadequate.

I-52. The stated land requirements are not accurate, because they do not consider the total area required. For example, the area required for snow collection for the "snow roads" will be affected permanently in reality and not temporarily.

I-53. The table should clearly state that the Alaskan federal lands involved are the Arctic National Wildlife Range, an area set aside specifically for its wilderness and wildlife values, both of which will be seriously compromised by the proposal.

I-79, para. 3 - We need to know where the water is to be obtained for pipeline testing on the Range. All streams are frozen to the bottom during this period. Use of water from Sadlerochit Springs or the Hulahula and Kongakut "upwellings" will severely damage wintering fish dependent on these sites to obtain the required 496,000 gals per mile.

I-89, para. 1 - Prior to issuance of any permit, Alaskan Arctic Gas should have a firm plan for termination. A requirement should be the salvage of all pipe, as anyone with experience in the Arctic knows that within a few years the pipe will be forced to the surface, through frost action, as it may be even while active.

I-93. Under Fish and Wildlife Service, Action-Responsibility. Should add "and other fish and wildlife" after "endangered species."

I-154, para 1 - Gravel is not being extracted or processed on the Range. This is a misleading statement, contrary to refuge management objectives.

I-164, para. 1 - "Such effects may be self-perpetuating and difficult to predict." Expand on this subject. Describe the effects of seismic and drilling operations on state leased lands west of the Canning River, where even today the erosion is continuing for miles along these lines and roadways to depths of 20 and more feet. Should also refer to the Nichel Highway or "canal" and the Pet 4 exploratory work done in the early '40's.

I-168, para 1, line 4 - add after "moderate" the phrase "in its natural state but once disturbed results in severe erosion". A true picture of the tremendous damage wrought by erosion in permafrost is not presented here.

I-205, para. 3 - Add to the first sentence the following: grizzly bear, moose, ground squirrel, lesser Canada and snow geese. Add to second sentence: snowy owl, rough-legged hawk, goshawk, golden and bald eagles, and gyrfalcons.

I-215. The statement on the Arctic National Wildlife Range is fairly good but buried. It is one of the more important aspects of the ES and should be more accessible.

I-217, bottom - The "relatively large numbers" of breeding peregrine falcons, gyrfalcons and golden eagles need to be defined. Studies on this route appear to have been neglected to the extent that specifics are not available.

I-258. Historic Land Uses. Prehistoric man existed in this area for thousands of years prior to the "discovery" of it by white men. Surely something can be said for them, rather than beginning the history of the area with the discovery of oil at Prudhoe Bay in 1968.

I-283, para. 3 - The State of Alaska Highway Department maintains road maintenance and construction equipment at Deadhorse. Some sections of the roads refered to are surely public.

I-304, para 2 - The ANWR has already been studied for wilderness purposes.

This paragraph needs rewriting. It gives a false impression of future industrial development of the Range and is prejudicial in that it discusses possible mineral development in the event of Refuge designation but does not discuss the future if the Wilderness designation is granted.

I-322, para. 2 - Two such sites exist in the ANWR along the proposed pipeline route: one at Tamayariak River crossing and the other at Okerokovick River crossing, with a historic trap cache located at the Hulahula River crossing.

I-324, para. 1 - Two additional sites exist in Alaska: Camden and Demarcation Bays, designated under this proposal as wharf and material sites.

I-327, para. 2 - Two of these sites are Camden and Demarcation Bays, where wharves, material sites and borrow pits are planned.

I-333, para. 1 - At this point we cannot assume that public access to the ANWR will necessarily improve with construction of the pipeline. The decision concerning opening of the Alyeska haul road to the public, for instance has not yet been made.

I-376, para. 2 - Discussion should be added concerning noise pollution as it affects mammals and other wildlife. In the Arctic this effect will have the greatest adverse impacts.

I-395, para. 3 - The archeological significance of the Arctic Coast Plain is grossly understated. This is known to have been both a trade and travel route for thousands of years. Should be revised.

I-403, para. 2 - Compressors in the open tundra will be heard for greater distances than stated. Use of mufflers with subsequent loss of their 30,000 HP is adverse to the purpose for their installation. Iron-clad stipulations will have to be written into the permit and constantly enforced to assure the installation of proper mufflers.

The noise pollution resulting from compressor sites will fill the total area from the Canning River to the Canadian border, from the mountains to the coast and for unknown miles over the Beaufort Sea, reducing the value of that area as wildlife habitat, especially for larger mammals. Page 399 of section II of this ES more honestly predicts the true noise pollution potential of this project. The phrasing used in that discussion should be used here also.

I-406, para. 3 - Even in winter, travel over the frozen tundra "...will result in destruction of plants and the insulating organic mat protecting the soil with thaw consolidation and erosion a probable result." Again, the impact is understated. It is a known fact that thaw consolidation and erosion will result. Snow/ice roads will not eliminate this impact. Complete kill of vegetation can result and next summer's solar radiation results in erosion. Also, the term "thaw consolidation" needs to be defined. The majority of reviewers may not appreciate the implications of this term, given Arctic conditions.

I-410, para. 3 - Experience has shown the ineptness of engineering under Arctic conditions. Engineering problems thought resolved during the early 60's are still a problem of concern today. The consequences of a 133-mile buried, chilled pipeline built with a total lack of knowledge of what such a pipeline will do under Arctic conditions (see page 410) is cause for pessimism about the realm of "engineering feasibility".

I-416. Mitigating Measures. The simplest way to preserve the permafrost is not to disturb it or to devise a new technology which will ensure that it will be preserved. For instance, laying a double line in the bottom of the Beaufort Sea would eliminate compressor sites and ensure full capacity of gas at its destination. This alternate has not been mentioned in the DES, and is well within the realm of engineering feasibility.

I-419, para. 3 - This discussion should mention the fact that experiments of revegetation at Prudhoe Bay have failed to date. Success for certain has been reported by the other experimental sites in Canada, but they apply to the taiga, not the tundra.

I-421, para. 2 - The fact should be made clear that "mechanical stabilization methods" mentioned by the Applicant are gravel berms. Such euphemisms may cushion the impact on the reader, but not on the environment.

I-422, para. 3 and 6 - herbicides will not be used on the ANWR and this should be clearly stated. The Applicant is aware that if a permit is issued across the Range, he will have to clean up and restore vegetation and soil by hand, as was done in August 1973.

I-426, para. 3 - Mitigation proposedhere does not apply to the ANWR and this should be stated. The proposed Jago River ecological area will be cut in two by the pipeline and this should be stated.

I-438, para. 3 - Discussion should include moose and caribou calving areas, and polar bear den sites. These latter are senstive from October through April.

I-451, para. 2 - The ANWR should be added to this listing.

I-455, para. 4 - As little as 0.03 ppm of SO_2 can result in death of lichens. This should be clearly stated. The statement should properly not downgrade the effects of these compressor sites on the tundra. See page II:747 for a more honest discussion.

I-491, para. 1 - the threat posed by sulfur dioxide to lichens is understated. It is extremely serious in its implications for caribou.

I-493, para. 3 - The time period required for vegetative recovery in permafrost areas are optimistic to the point of recklessness.

I-498, para. 3 - the probability is high that use of the foothills and the Arctic Plain by snow geese would be eliminated.

I-505, para. 2 - this discussion of aesthetic values is an example of the distorted understatement of adverse impacts throughout the document.

I-535, para. 3 - include the following unique species in the listing: gyrfalcon, caribou, polar bear, tundra grizzly, wolf, wolverine, arctic char and grayling.

Specific Comments: Part II, Volumes 1-3 Alaska Section

II -17 - This is a recklessly accelerated schedule with no consideration given to the hard-won experience of Alyeska concerning delays.

In addition, the methods to be used to dovetail the "new construction techniques and equipment" with immediate building of the line if the permit is issued should be discussed for the sake of credibility.

II-25 C - This justification section should be deleted or integrated into the introduction. Such discussion traditionally is not emphasized in impact statements.

II-31. Add a separate paragraph dealing specifically with the wilderness studies which were completed in April 1973, as mandated by the Wilderness Act of 1964, and are awaiting action by the Department of the Interior and the President. These studies found nearly the entire Range to be suitable for inclusion into the National Wilderness Preservation System.

II-47. Borrow pits will also be located at Camden and Demarcation Bays and should be included in this summary.

Because of the value of Camden Bay as an archeological site, GM 59 should be designated "Camden Bay" instead of "staging area". In the case of GM 104, borrow would be removed from the side of a hill less than 3/4 mile from an active trumpeter swan nest site.

II-57, para. 2 - Pipeline looping as an alternative has been omitted from discussion. Looping of lines would eliminate all compressor stations within the ANWR, whether the lines were buried along the proposed route, buried in the Beaufort Sea, or double-laid on timbers. Such construction would eliminate controversial aspects of the present proposal by reducing environmental damage, with the knowledge that the pipe would be salvageable in the future.

II-62, para. 2 - More detail is needed with regard to the power source of the runway lights.

II-64, para. 1 - There is a serious problem with regard to sources of snow and water to be used in contruction of roads. Most of the landscape in winter is windswept, permitting no accumulations of snow except in drainages (where polar bear traditionally den) and water circulation is nil, with most lakes, ponds, rivers and streams frozen solid. A few spring-fed areas have water circulation with upwelling of water from beneath the frozen bottom where aufeis buildup forms overwintering areas for fish. Snow mining will cause more environmental damage (possibly up to a 10-mile strip) than would be expected under this proposal. Severe problems with regard to taking of snow from polar bear den sites or water from fish wintering areas require a great deal more thought and elaboration than given here.

II-65, para. 2 - Perhaps an alternate proposal requiring a double loop should be considered to eliminate compressor stations on the ANWR, whether by sea or land. This would result in less environmental damage, permit construction during the summer after mid-July via helicopters and permit complete recovery of the pipe. Maintenance would be minimal and costs considerably less. Pipe could still be strung out during winter using methods described in the statement.

II-79, para. 2 - Snow/ice roads probably cannot be constructed at times other than the winter season. Sufficient snowfall has not normally accumulated by the middle of October, as in 1973.

II-81, para. 2 - Again, a schedule based upon "best assumptions" is reckless.

II-95, para. 1 - we doubt very seriously that metal-clad buildings sitting out on the tundra will ever blend with the landscape. Some means of achieving this end should be provided for the sake of credibility.

II-95 - the winter construction season should be identified. Impacts cannot be judged in the absence of dates.

II-97- stripped tundra and replacement backfill would not be possible during a winter construction period; the mantle cover crumbles due to permafrost. Summer removal of the tundra mat would require thermal control.

II-103, para. 4 - Rockshield should be defined and its use explained.

II-108, para. 1 - the parameters of the term "disturbed areas" should be drawn.

II-109- complete retention of the 55,600 barrels of methanol would be required. Release of the alcohol into the environment should be prohibited and a plan made to retain it at each leak location. A controlled test of methanol in the arctic environment is advisable prior to pipe testing.

A complete description of the handling of the methanol from start to disposal should be in the statement. A major problem will be the source of the huge amounts of water needed. Water is a scarce item during winter on the Arctic plain. The Applicant's intended sources should be listed.

II-140, para. 3 - Sewage treatment facilities of 190,000 gallon capacity for one year of complete retention is mentioned. Complete retention lagoons in the Arctic have not yet been attempted. Additional special effluent treatment may be required in order to assure that the aquatic resource is not influenced. A monitoring program in each of the drainages should be formulated before camps, etc are constructed.

II-172, para. 3 - These records appear to be from Barter Island and Prudhoe Bay. None deal directly with the pipeline route. Distances of a few miles make tremendous differences under Arctic weather conditions. More data on temperature and climate is required to fulfill what the Applicant considers essential for geotechnical considerations.

II-180, para. 2 - A close idea of the scant snow cover along the route is found here, but is not scrutinized for its implications. The time of year chosen by Battelle for snow depth studies found only 3 feet of snow on the ground, even though the study team believed the study coincided with maximum snow depth.

Given this circumstance of a 3-foot maximum, plans should be outlined in the statement to explain where the Applicant intends to find enough snow for his constroction.

II-182, para. 2 - regarding the stream-side vegetation where snow accumulates in excess of 3 feet deep, the statement is remiss in not pointing out that these very areas are those used by pregnant polar bear sows for denning. They are used by sows precisely because it is here that enough snow accumulates for them to survive the winter with their cubs. Pregnant sows come inland 30 miles or more to find suitable sites for denning. Just as the Applicant finds snow scarce, so do the sows and therefore a great potential conflict is written in the cards here. Polar bear cubs weigh only a few ounces at birth and remain in the den with their mother until April, when the family emerges and heads for the sea. During the denning period from October-April, the sow is extremely sensitive to intrusion as a rule and may kill or abandon her cubs, or may take the cubs prematurely from the den in an attempt to reach the open sea. Small cubs rarely survive such forced moves. These points need to be presented whenever the question of snow sources arises in the DES.

II-188, para. 4 - this paragraph summarizes explicitly what can be expected as far as winter construction of e pipeline.

II-203 - this map needs to be revised. Oil and ges fields are inferred for the ANWR from data outside the Renge. There are no known fields here.

II-215, para. 1 - This is supposition as it applies to the ANWR, where no drilling to depth has occurred.

II-218, para. 1 - the definition of permafrost is inaccurate. It is permanent unless the thermal environment is altered, which cen be done by the proposal. Once altered, in ice-rich soils, the end result will be thermokarsting and thaw ponds, such as occurred on the Hickel Highway.

II-247 - this table does not present a true picture. For instance, category "depth to permafrost" is depicted as moderate (24-60 inches) below mineral surface, or shallow, or deep. All holes drilled on the Range had permafrost less than 6 inches under the surface of the ground. Susceptibility to erosion would be high in most instances except on old outwash plains.

II-254, para. 3 - permafrost does not "generally tend to block the downward movement of water"; it does block the downward movement. References such as these minimize what actually takes place. Individuals with out background do not obtain a true picture of what actually happends.

II-257, para. 1 - The statement is made that the pipeline route crosses 120 identified Alaskan streams. Also noted should be the fact that an examination of USGS maps shows 101 of these streams as occurring on the ANWR, not counting all channels of braided streams.

II-260, para 1. - no data has been gathered to base these assumptions on, especially to predict volume and timing of a 50 or 100 year flood in larger rivers which would result in deep scouring.

II-262, para. 4 - data or reference to rivers other than the Sagavanirktok ahould be deleted, as these others are not on the route.

II-265 - this table shows how difficult it is going to be for the Applicant to obtain his required amount of water for snow/ice roads and testing.

II-266 - delete all iuformation except that pertaining to the Sagavanirktok River. Other information could be added for rivers along the proposed route.

II-276, para. 3 - Areas of aufeis may indicate springs, but aufeis also forms where groundwater percolating through gravel beneath rivers is dammed due to penetration of frost, which forces water to the surface of the ice. Accumulations during severe winters can accrue to thicknesses of 50 feet or more, covering large areas. The statement "...2,000 or more feet thick" ahould be referenced, inasmuch as this figure is difficult to believe.

II-278 - taking water from springs which flow in winter would result in serious impacts on fish and aquatic life, which consentrate in such areas and depend on them for survival.

II-295 - source for this map sould be referenced.

II-306, para. 1 - this is the most comprehensive and factual statement made to date regarding vehicle tracks on the tundra. Most of these tracks were made after the active layer had frozen, permitting travel. Yet today one seea the steady attrition to these tracks compounded annually, becoming more visible as aolar radietion and surfacr runoff aggravate the problem.

II-308, para. 1 - the rarer trumpeter swan should be listed here.

II-309, para. 3 - Newly sprouted leaves of sedges are also important to caribou for calving areas. Newly sprouted leaves of sedges in addition to the dried sedge from the past growing season and lichens are available in quantity. Tussocks also offer a windbreak to the newborn animal which can make a temperature difference of as much as 40°.

II-319, para. 1 - caribou concentrations can vary considerebly from year to year, depending on tfme and weather conditions.

II-321, para. 2 - This is a most worthwhile statement of the tenuous position of caribou and needs emphasis.

II-326, para. 2 - It would be more informative to refer to the Sadlerochit Mountains, ratber than the "northern flank of the Brooks Range." It is more than "possible" that sheep will be affected by the pipeline activity. The word "probable" should properly be used.

II-327, para. 3 - Tundra grizzlies actually use this area, as can be observed from sightings, tracks and trails as they leave the coast end coastal plain to head south into the foothills and mountains for denning.

II-344 - to correctly depict involvement of polar bears, the legend should read "and resident during denning period along proposed pipeline route from October to April."

II-353, para. 3 - The phrase "for denning purposes which occurs from October to April" should be added to the last sentence to draw an accurate picture of the use by polar bears of the area.

II-354, para. 1 - the reasons for polar bear traveling inland are not completely unknown. The female comes ashore, sometimes es much as 25-30 miles inlend, to den and bear young.

II-361, para. 4 - the bald eagle, the national bird, should be listed as using these sites for fishing during August and September.

II-370, pera. 3 - This erea is en historicel staging area for snow geese from northern Alaska and northwestern Canade. Quite possibly, snows from northern Siberia form a segment of this staging population. Without this area for a rest stop and feeding site, the young of the year would probably not make it to their next stop, which mey be over a thousand miles to the bottom reaches of the southern Canadian provinces or the northern tier of the U. S., where in some yecrs, thousands of birds are forced down to reat when they encounter gale winds from the east.

II-371, para. 3 - trumpeter swans should be added to this section, since they do occur along the proposed route and at two proposed wharf areas et Camden and Demarcation Bays.

II-374, pera. 2 - the fact that no lesser snow geese nests were reported until 1971 does not mean there were none. It is unlikely that a colony of some 50 pairs would suddenly appear from one year to the next.

II-459, para. 2 - again we find highly prejudicial and emotional wording: "The presence of the ANWR has restricted development." This could be changed to read, "The present of the ANWR has preserved the last great expanse of unspoiled arctic systems for the enjoyment and enlightenment of generations of the American public to come." This wording may also be open to the charge of emotionalism, but it comes closer to the public land order which established the range for all Americans.

para. 4 - An overflight over Naval Petroleum Reserve 4 some 42 years after a major exploration effort there will show how efficient winter haul roads can be at vegetetive destruction. Today, the record is still indelibly written in the tundra. Also today, the Hickel Highway exists mainly as a morass of mud and water resembling a canal for most of its length.

II-545, para. 1 - the Range was studied for inclusion in to the National Wilderness Preservation System.

II-560, para. 3 - Demarcation and Camden Bays are prehistoric and historic areas requiring extensive archeological research prior to commitment of these areas to wharfs, meterial and borrow sites.

II-566, para. 2 - several archeological aites were located along the soil study route conducted in 1973. These are located at river crossings on the Tamayariak and Okerokovik Rivers. A trap cache is located at the Hulahula River crossing.

II-578, para. 3 - Many people who will never visit the Range are happy to know it is there.

II-643, para. 1 - Based on results of the applicant's reseeding and vegetation experiments at Prudhoe Bay to date, chances are less than good that this will succeed. Experimental plantings have winterkilled.

II-646, para. 2 - at this point, an extensive discussion of the results of the Soviet pipeline system are in order.

II-655, pare. 2 - Side overlap will not prevent thaw consolidation and protect thermal characteristics of upper portions of the pipeline ditch. Ample evidence is available from any seismic trail, road, airstrip, drill sit or camp pad today on the north slope in ice-rich soil conditions. Solar radiation at the edge of the fill results in thermokarsting - melting of the ice with resultant soil slumping, ponding of water and caving of fills, a process once initiated, impossible to stop until a new balance in achieved, perhaps hundreds of year hence.

II-688, para 1 - At no place in this document has a discussion of vegetetive growth under snow taken place. Much litereture is available on adaptations of the various plants to Arctic conditions: formation of new leaves and buds in the fall, two growing seasons to mature seeds, vegetative reproduction, etc. A complete discussion of vegetative adaptation is required, along with effects of ice/now roads and the smothering these produce. A complete kill of all vegetation is probable, with resulting effects such as decreased thermo-insulation and increased solar radiation. The end result could be thermokarsting the full length of the line.

II-701, para. 4 - this paragraph contains the hub of the problem, but needs elaboration, and emphasis. Concentration of water in the depression will result in total kill of existing vegetation, compounding the thermal regime, increased thermokersting, slumping and ponding of water until a new drainage system is formed. Much information is available and documented. Bibliographies and library indices of the Arctic Institute and University of Alaska should be checked. Porsild's work with vegetation, especially vegetative adaptations to Arctic conditions, and vegetative activity under snow should be used as well.

II-702, para. 1 - Additional information is available on this topic from the activity on Pet 4 during the early 1940's. No rehabilitation was attempted and each year continues to aggravate the problem with disturbed areas expanding in size and water-filled canals lengthening.

II-713, para. 2 - the three items mentioned should be extended. These items are not the true impacts of the action - their implications for fish and wildlife (for example) are the real impacts. The statement throughout avoids emphasis (or even mention in some cases) of the true impacts on fish and wildlife of changes in the hydraulics of streams. These impacts should be developed and drawn together in a single, coherent discussion.

II-723, para. 1 - most rivers and streams in the ANWR have steep gradients, where this situation would apply.

para. 2 - a time frame more concise than "rapid" should be offered here.

II-724, para. 2 - On slopes with relatively steep gradients such as occur in the ANWR sheet flow is rapid, with waters concentrating in all drainages and velocities increasing as melt progresses, all within a day or two. This is a dramatic occurence which should not be understated.

para. 3 - Effects on vegetation of ponding waters and thermokarsting should be including. The resultant effects of the pipeline and its construction have not been emphasized adequately.

II-737, para. 2 - mitigating for the 1,600 acres of destroyed vegetation and evaluation of the impact on wildlife should be included. Also included should be the short-term effects from an additional 3,100 acres disturbed during construction.

II-738, para. 1 - these losses are not insignificant when added to those already lost as a result of seismic exploration and development on lands west of the ANWR.

II-740, para. 3 - to date, the applicant's seeding experiments of exotics has resulted in winter kill.

II-742, para. 3 - an estimate of the effect on vegetation of snow removel with consequent water loss to plents during spring melt should be made.

II-746, para. 2 - "insignificant" does not appear to be a proper adjective to describe a total kill of vegetation and animal life, no matter how "local."

II-747, para. 2 - increased solar radiation and thermal melt will also result through loss of lichens, which will result in soil slump and thermokarsting in ice-rich soils.

II-748, para. 4 - the discussion of compressor stations is confusing throughout the document. Statements are made that no compressor stations are planned, followed by other statements that there will be 6 such stations in Alaska. Apparently, the need for compressor stations is predicated on the thruput of the pipe. A single statement outlining the expectations for compressor stations would be helpful.

II-753.- in the winter column, notations should be made that tracks will become more visible each year as soil erosion occurs, concentrating water which will eventually result in gullying, thermokarsting and formation of beaded streams, ponds and lakes until equilibrium is once again reached.

II-755 - the time interval for recovery should be noted.

II-757,-para. 2 - the area has already been reserved as the Arctic National Wildlife Range. It should need no further protection.

II-763, para. 5 - pipeline ruptures and explosions should be specifically mentioned as a possible cause of fire.

II-764, para. 2 - aircraft should also be acknowledged as a major source of wildlife harassment.

II-765, para. 3 - carihou are present here also for spring calving, a most critical time.

II-766, para. 1 - the discussion should identify the area as caribou calving grounds, showing the importance of the area to the international herd.

II-770, para. 1 - an effect that impacts a total population at one time or another, such as massive disturbance to the caribou calving grounds mentioned here, is not local.

II-771, para. 1 - historically, disruption of normal movements and behavior patterns have shown that caribou herds will abandon part or all of traditional range. Construction of the Richardson Highway in the vicinity of Big Delta resulted in abandonment completely of a migration route and disappearance of an entire herd during the 1920's and 30's. Construction and increased activity on the Steese Highway has resulted in abandonment or relocation of that group of caribou. The same applies to the Forty-mile herd and the Nelchina herd.

II-771, para. 2 - during spring migrations, the golden eagle depends largely on carcasses of dead calves for its existence. On one straight line flight between the Egaksarak River and the east end of the Sadlerochit Mountains, 35 golden eagles were counted during this period.

II-773, para. 3 - five hundred to six hundred caribou winter on the north slope of the ANWR, numbers which vary but have been increasing annually. Winter construction could seriously affect these animals.

II-775, para. 4 - muskox numbers given are too low. The transplant has been a success and numbers have recovered equal to or exceeding numbers originally introduced. The area concerned should include the drainage systems as far east as the Kongakut. Okerokovik drainage system contained 11 muskoxen during summer and fall of 1973, although no mention is made in the statement.

II-777, para. 1 - there is an apparent contradiction here. The pipeline and its ancillary facilities are said to be "well removed" from Dall sheep range, but the pipeline itself will be located "only a few miles" north and a communications site will be in the winter range. This should be clarified.

II-781, para. 1 - the effects of noise from the projected 17,000 and 30,000 HP compressors should be discussed.

II-708, para. 2 -enough evidence has accumulated from field research and observetions of zoo personnel to indicate that polar bear sows absolutely require isolation during this period. Direct killing of cubs or den abandonment with resulting premature exposure of small cubs to severe winter conditions are the usual outcome.

II-799, para. 2 - estimate of snow geese is too low. In 1973 during this period an estimated 400,000 snows occupied the area.

II-807, para. 2 - specific water sources for the 250 miles of ice road (187.5 million gallons) should be made clear. Intercepting flowing water in rivers and streams during the winter is critical to all forms of the aquatic resource. Retaining any quantity of snow for road construction will be a problem due to light snowfall and extreme winds. Collecting snow outside the designated corridor should beprohibited.

II-966, para. 3 -the public property all by all private citizens in common shou be discussed.

II-967, para. 3 - the huge military-type helicopters have this capability.

II-979, para. 2 and 3 - this typically portrays the performance of the applicant in conducting his research activities.

II-982 and following - within Alaska, 61 miles of the project will be on State land and 133 miles on the Arctic Range. Yet in 12 pages of impact matrix, the ANWR management options are noted on the last column of the last 3 pages. This bias by near omission or understatement is the theme of the statement as a whole. Once again, we request a single straightforward volume be written, examining in detail the implications of the project on the Range only, with ramifications for future management options, all viewed with respect to the PLO which founded the Range, largely because of its wilderness values.

II-1105, para. 1 - sod subjected to fuel, lubricants, oil or methanol results in kill of vegetation. Such sod required complete removal and replacement as was done on the 1973 soil study the by applicant.

II-1107, para. 1 - information needed on snow fences includes timing of installation, method of installation, and timing of removal to avoid interference with caribou migration.

para. 3 - here it is considered speculative and inappropriate to predict long-term changes in caribou populations. This was not the case for the Recreational and Esthetic Resources section, 925 to 927. This last seems equally speculative.

II-1111.- the applicant foresees no impact on Dall sheep in spite of the construction of communications facilities in winter range and compressor stations nearby. Perhaps another examination should be undertaken.

II-1113, para. 1 - fences around camp areas and airstrips will also collect snow, just as regular snow fences. Constant windswept snow accumulates rapidly into large drifts, even through a nail hole, as any Arctic dweller will verify. Snow drifted fences will not keep out wildlife and may even become traps.

II-1117, para. 5 - emphasize effects of volatile fuels, gas and diesel oil on marine and freshwater invertebrates. These substances often result in total kill to depths as deep as 40 feet.

II-1128, para. 1 - regulations of the ANWR, for obvious reasons, prohibit activities such as "spraying the residual" of methanol over the land. Applicant should not depend on using the method.

II-1136, para. 2 - polar bear and wolf should be added from the Arctic Plain and Dall sheep from the Sadlerochit Mountains.

II-1156, para. 3 - the writers of the DES are remiss in their assumption of an advocacy role in behalf of the applicant throughout the statement. Simply because the applicant has proposed no mitigation for impacts on land-use planning does not mean this is unmitigatable, nor should it absolve the writers from proposing mitigating measures of their own, to fulfill NEPA.

II-820, para. 4 - some quantification of the terms "several years" and "eventually" should be attempted here. The statement is understated as is.

II-844, para. 1 - this area is the Arctic National Wildlife Range.

II-863, para. 5 - all wastes on the ANWR will be disposed of elsewhere.

II-899, para. 1 - a reconciliation should be made here between the earlier estimate of 6,000 to 7,000 feet for compressor station audibility, versus this estimate of 30 to 40 miles. There is a degree of difference that requires development of this subject.

II-916, para. 2 - Impacts of enormous magnitude may result from large oil spills resulting from ships, tugs and barges being caught in and crushed by ice through the short shipping season. The barrier reefs bordering the northern coast including Icy Reef, are vitally important production areas for marine and terrestiral animal life.

II-918, para. 1 - Icy Reef is not a place. It consists of a series of offshore bars and islands considered for inclusion as a Unique Area.

para. 2 - it is not clear how the applicant can evoid appreciable affecting the permafrost features when the route cuts directly through Clarence Plain, which isunderlain 100% by permafrost.

II-924, para. 1 - this is the first time that noise from friction of the compressed gas flowing through the line has been mentioned.

II-934, para. 3 - the phrase "more (?) condition" is impossible for the reviewer to interpret.

II-938, last sentence - add "as it is presently classified" to the air quality discussion.

II-943, para. 3 - this is the first time "nine crushing plants" have been mentioned. The project should be present in a straighforward manner, not scattered randomly throughout thousands of pages.

II-948, para. 3 - these compressor/chiller stations are not located within the Range; they are so plenned.

II-959, para. 2 - include polar bear, tundra grizzly, wolverine and wolf in the list.

II-963, para. 2 - Once the 30,000 HP compressors become operable, a continuous belt of noise will overlap between compressor sites, negating the total area between the Beaufort Sea on the north and the north flank of the Brooks Range on the south, as wildlife habitat.

II-964, para. 3 - this is false. The greatest impact will be on wildlife inhabiting the area, not on the hikers.

II-965, para. 1 - State what the effects will be on those species which remain, particularly the polar bear sows in maternity dens.

II-1161, para. 2 - summer and winter construction of a pipeline laid on timbers on the ground with overhead river and wildlife crossings would have less impact on ANWR lands. This type of construction using a double loop should be thoroughly explored and evaluated as alternatives, since they eliminate compressor sites. Short-term costs may run higher, but compared to the value of present undisturbed lands and lifetime of the pipeline, these would be minimal.

II-1174, para. 4 - the line would not be stable in frozen ground. Research at the applicant's Prhudhoe experimental site was suspended when sections of pipe were actually raised above ground by frost action. All buried things in the Arctic eventaully come to the surface.

II-1177, para. 3 - include effects on lichens and other vegetation.

II-1203, para. 1 - frost bulb growth will exist at any temperature below freezing. All that is needed is moisture.

II-1221, para. 4 - loss of soil productivity through contamination could be great. Microbacterial action is greatly reduced in the Arctic. Years for recovery are required. Complete removal and replacement of sod is often the only answer.

II-1225, para. 1 - this is an understatement. Not only would 60,000 oldsquaws and eiders be "harmed" by an oil spill, but the marine food chain, other waterfowl and shore birds, and marine mammals.

II-1225, para. 2 - ponding of water with resultant vegetative kill, thermokarsting resulting in new drainage systems will not mitigate impacts.

II-1226, para. 1 - close reading suggests that the entire length of the line, including haul roads and construction platforms will be overlain with gravel, with little chance of completely restoring vegetation.

II-1227, para. 2 - elsewhere in the statement, Calef predicts a 90% reduction in caribou numbers.

II-1229, para. 1 - this is the northernmost breeding and feeding range for Dall sheep on the North American continent.

II-1238, para. 1 - add "and the lifetimes of generations yet to come" to the end of the sentence.

II-1246, para. 4 - relocation of disturbed wildlife is not so easy as it appears here. The animals find optimum conditions where they are now, otherwise they would not be there.

II-1287, para. 1 - bulldozers are required in backfill operations for replacement of repaired sections of pipe.

II-1328, para. 2 - the State of Alaska proposes to collect products from the Beaufort Sea sale. The applicant might contact them for information on techniques they plan to use.

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

November 3, 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
United States Department of the Interior
Bureau of Land Management
Washington, D. C. 20240

Dear Mr. Koenings:

The draft environmental impact statement "Alaska Natural Gas Transportation System", which accompanied your letter of July 25, 1975, has been received by the Department of Commerce for review and comment. The statement has been reviewed and the following comments are offered for your consideration.

Geodetic control survey monuments may be located in the planned pipeline routes. If there is any planned activity which will disturb or destroy these monuments, the National Ocean Survey (NOS), of which the National Geodetic Survey is a part, requires not less than 90 days notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project include the cost of any relocation required for NOS monuments.

It is recommended that a more thorough treatment be given to the maritime transport alternative for Arctic natural gas energy. The Maritime Administration--Maritime Submarine Transportation System Conceptual Design Study, dated January 1975, is suggested as a reference.

This Department's Office of Minority Business Enterprise (OMBE) was established by the President as an agency in the Department of Commerce to coordinate Federal and private efforts to foster the development of minority business. In the case of the $4.5 billion Alyeska Pipeline, OMBE has been working very closely with the pipeline service firms and the Department of Interior in an effort to assure minority business participation in the trans-Alaska project. Under this arrangement, OMBE has identified over 500 minority owned firms capable of performing sub-contract work on the project and over $285 million has been awarded in contracts with another $15 million in process.

In view of the magnitude of this new effort, it is essential that the final draft environmental impact statement specifically reflect, in the economic factor section, the national socio-economic benefits to be derived by meaningful minority business participation. OMBE would be happy to work with Interior, and with the Department's special task force preparing the environmental impact statement, in working out language that would be mutually acceptable.

Based upon the Alyeska experience, it can be assumed extremely adverse attention will be focused on the natural gas transportation system by congressional, media, and minority community sources unless realistic minority business participation criteria are incorporated in the impact statement.

This Department's Office of Coastal Zone Management did not find evidence that the views of the State of Alaska, nor the affected states, were adequately sought nor considered in the planning. We believe this is particularly important since a large portion of Alaska's coastal zone is involved. Many of the aspects of pipeline construction and operation of the pipeline in this zone have not been suitably tested.

It is unclear why the alternative of using the existing Trans-Alaska Pipeline route and LNG is not a viable option. Based upon a competing group pursuing this proposal, (El Paso) it would appear this option should be thoroughly explored in the final statement. The net new environmental impact could be much less than that proposed.

Another point of concern is that the draft indicates that the proposed pipeline will probably be removed, yet the environmental impact of its removal is not thoroughly discussed nor recognized.

Concerning seismology, if the standard engineering practices are applied for the maximum magnitudes and accelerations that would result, earthquake risk should be minimal. Apparently, the engineering and design intended are not properly within the scope of the draft environmental statement, but are to be included elsewhere. It would seem that proposed construction plans should be evaluated to see whether they, in fact, protect against the earthquakes recognized here as probable.

The proposed pipeline crosses some 1500 waterways, 100 of which are major waterways. This would seem to have the potential of disrupting the aquatic ecosystems throughout the area. This could have an effect on the coastal zone through downstream degradation and/or disruption of some anadromous fishes. Also, the "retrieval" of gravel from the stream beds may have a serious impact. It is suggest, further, that potential disruption of river navigation be addressed.

Generally, the draft appears well written but the applicants' plan (on which the draft is based) appears inadequate. One of our principal concerns is with the coastal area near Prudhoe Bay, the waterway crossings that the pipeline will make, the loss or degradation of wilderness and recreation areas and especially the disruption of the fragile tundra ecosystem.

Specific Comments:

Pagel-21-22 - The proposed pipeline route is to pass through many areas that are important either recreationally or ecologically. This is addressed within the draft but we believe concern ought to be expressed. A summary of the areas affected is on page 21-22.

There are many geological hazards throughout the routes of the pipeline (earthquakes, land slides, mass wasting). The overview volume has not addressed the engineering aspects of protection of the pipeline to any great extent.

Page 1-37 - It is stated that the pipeline will be below scour depth at water crossings. A minimum depth of burial of 30 inches is indicated. What is the potential maximum depth of burial for protection from ice scour and annular ice bulk phenomena?

Pages1-89-91 - The draft indicates that the pipe will be recovered after its usefulness is gone. This seems somewhat questionable because, even though the material of the pipe may be valuable, this action only serves to repeat all of the adverse environmental impacts associated with construction of the pipeline, and it would appear that the adverse impact of this proposal would far outweigh any potential gain.

Page I-97 - The summer temperatures for the Arctic Slope of Alaska are said to range "between 40 °F and 75 °F ". The very next paragraph, however, states that the average summer temperature along the proposed pipeline route, which is on the Arctic Slope, is 32°F. This is a contradiction. This 32° temperature is again given in Table 2.1.1.1-2, page II-179. The same temperature is given for all four compressor station locations. It seems highly unlikely: (a) that all four stations would have the same temperature average given their differences in location and elevation and (b) that the summer temperature would be so low. Barter Island and Barrow are both warmer.

Page 1-99, bottom line - It is stated that the prevailing winds along the Alaskan coastal zone are from the west. However, on page II-183 it is maintained that the prevailing winds in this area are from the northeast, but with most high winds coming from the west. This contradiction should be rectified.

Climate data for Barter Islandare given, but the station 's exact location is not indicated. Something more precise than "to the north of the proposed project area" would be helpful.

Page 1-116 - For the first 62 miles the pipeline follows the Arctic coastal plain - "a nearly level and marshy terrain ..." (p. 116). The proposed pipeline originates on the southwest shore of Prudhoe Bay and then runs 3 to 30 miles along the coastal plain (p. 17). Presumably, where the pipeline lies within 3 or so miles of Beaufort Sea, there may be adverse impacts on the coastal zone (as well as where it crosses a marshy area).

Pages 1-434-463- Additional Mitigating Measures - This section contains good recommendations and seems to reflect an honest concern for the minimization of adverse environmental impacts.

The secondary impacts of this project seem to be of great importance in determining the overall environmental impact. These secondary impacts stem basically from the "opening up" of the wilderness region along the northern part of the route. This is discussed within this section. It seems to be of major concern. Specifically:

a. There is a great possibility of increase in oil and gas exploration and development due to the increase in available facilities (within the northern country.) This seemingly could have an effect on the coastal zone.

b. Of great concern is the impact of the maintenance of the pipeline. The draft states that, in the event of a leak, maintenance operations will occur no matter what the season. Within the tundra country this could cause serious environmental impacts. Airplane maintenance checks and operational noise from the compressors would also cause an effect on the wildlife in the region.

Pages 1-485, 486 - The effects to the marine ecosystem are addressed on these pages. The draft seems, in a way, to contradict itself, because it states that the ecosystem is in delicate balance but that disruption of the ecosystem would not cause any long-term impacts.

Page 1-518 - It is noted that about 15-20 percent of gas entering the pipeline system at Prudhoe Bay would be consumed by the time the gas is delivered to consumers at the end of the 6,000 mile system. It should be noted on page I-532 that pipeline removal will require expenditure of energy and materials as well.

Pages II-1820-1821 - It is not very clear what the maps show. If "winter temperatures," for example , refers to mean daily minimum temperature from December through February, then this should be stated. Also, Table 8.1.1.4-3, page II-1822 would be more meaningful if all four locations were depicted on the accompanying climate maps. It is useful to know their location with respect to the pipeline.

Page IV-1015, fourth line from bottom - The sentence reads:

> "In all seasons of the year, daily temperatures range from 30° to 40°F." This gives the false impression that observed readings are always between 30° and 40°.

Page V-167, twefth line from bottom - The sentence reads:

> "Figure 2.1.3.1-4 indicates 90°F average and above." This is not so. The figure gives the number of days that the temperature reaches 90° and above.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving twelve copies of the final statement.

Sincerely,

Sidney R Galler

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

November 28, 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
United States Department of the Interior
Bureau of Land Management
Washington, D. C. 20240

Dear Mr. Koenings:

This is in further reference to your draft environmental impact statement entitled "Alaska Natural Gas Transportation System". In order to expedite transmittal of these additional comments from the National Oceanic and Atmospheric Administration, we are sending them to you as they were received in this office.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. As stated in our earlier letter, we would appreciate receiving twelve (12) copies of the final statement.

Sincerely,

Sidney R Galler

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure: Memo from Mr. Wilmot N. Hess, Director
Environmental Research Laboratories

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL RESEARCH LABORATORIES
Boulder, Colorado 80302

Office of Programs Rx3

DATE: NOV 20 1975

NOV 24 1975

MEMORANDUM

TO: William Aron, Director
EE

FROM: Wilmot N. Hess, Director JO Fletcher
ERL

SUBJECT: DEIS 7S07.67 Alaska Natural Gas Transportation System

Attached are additional comments from ERL on the subject DEIS.

Attachments: as stated

COMMENTS: DEIS

ALASKA NATURAL GAS TRANSPORTATION SYSTEM

Vol. II: Pg. 414, second paragraph - It would be more useful to state the geographical scope in miles from the AAGPC pipeline system for which there are no known nesting sites, that is, define "directly associated with" in concrete terms.

Vol. II: Pg. 424, first paragraph - energy and matter - actually an ecosystem is open to energy and closed to matter.

A. Major Ecosystem 2) Fresh-water ecosystems.

Vol. II: Pg. 428, first paragraph, add "(c) low resistance to stress."

Vol. II: Pg. 430, second paragraph..."190 grams"...This volume would require growth at 1.8 g/m^2/day maximum rate for 90 days - the length of the entire growing season (see figure on Pg. 431) which seems very unlikely. The yearly production figures are suspect.

Vol. II: Pg. 431, Figure 2.1.1.8-2...Reference?

Vol. II: Pg. 433, first paragraph..."contribution of benthic algae"... data?

Vol. II: Pg. 434, paragraphs two, three, four...data?

Vol. II: Pg. 435, Table 2.1.1.8-1.

Locations of Imikpuk, Ikroavik, and Malikpuk lakes?

Vol. II: Pg. 436, first paragraph - What is "consumer link"? "Tundra food chain" - Should be web. What about carnivores?

Vol. II: Pg. 438 - Food "web" should be used throughout.

Vol. II: Pg. 440, first paragraph...What is "a microscopic crustacean"?

Vol. II: Pg. 442, second paragraph..."beaded foothill streams" - braided? "Chironomid density may approach 100,000 per m^2, but may only be 10 to 100 per m^2..." - at what seasons?

Vol. II: Pg. 442, second paragraph - give reference.

Vol. II: Pg. 444, second paragraph...detritovores, same as saprovares?

Vol. II: Pg. 445, first paragraph - "Biological activity beneath the winter ice..." - How about not near river mouths or under ice"?

Vol. II: Pg. 446, second paragraph - "..., however, phosphorus and potassium become limiting." - After nitrogen has already been limiting?

Vol. II: Pg. 446, third paragraph..."nitrogen and phosphorus" - separately or simultaneously?

Vol. II: Pg. 447, first paragraph, last sentence (McCown 1973) - What were the results of the study? What is the implied ecological effect?

Vol. II: Pg. 449, second paragraph, third sentence...thermal erosion... What about thermakarst lakes?

Vol. II: Pg. 815, first paragraph, second sentence - We doubt that when tundra ecosystems are compared to temperate ecosystems, it can help "biologists sort out universal ecological mechanisms from purely local adaptations."

Vol. II: Pg. 815 - It should be pointed out that burying pipelines could disturb soil and drainage significantly which could increase erosion, etc., and affect a much larger area than immediate pipeline - i.e., streams, lakes, low lying tundra, etc.

Vol. II: Pg. 816, second paragraph, last sentence..."and about 1,000 in the [temperate?] grasslands"?

Vol. II: Pg. 820, first paragraph - Disturbed layer allows access of O_2 to waterlogged soil increasing oxidation and decomposition of organic matter. Soil will subside, CO_2 will increase.

Vol. II: Pg. 821, last paragraph - re: chilled pipeline...(1) What temperature? (2) Produce permafrost in areas lacking it? (3) Increase frost heaving and disturb soil further as well as stress pipe?

Vol. II: Pg. 821, last paragraph..."chilled pipe may not be a rapid" - or no growth at all? Followed by severe erosion?

Vol. II: Pg. 1128, first paragraph - The ecological impact of spraying methanol over land should be discussed in terms of its effects on land-based insects and other invertebrates and secondarily on birds and mammals which consume these invertebrates.

Vol. II: Pg. 1141, second sentence - What is "major" as defined by applicant?

Vol. II: Pg. 1142, first paragraph - Does this say that no one knows what the impacts will really be?

Vol. II: Pg. 1142, second paragraph - This sentence is inconsistent with previous paragraph.

Vol. II: Pg. 1143, last paragraph - Should recommend no fertilizers unless indicated in specific situation and then of a very insoluble type.

Vol. II: Pg. 1238-39, entire section - Is there a projection of effects of disturbance, development and travel to a particular year, such as 2000? For example, if routes are open to public travel, hunting, tourism, will the things that people want to see be destroyed in the process?

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

ASSISTANT SECRETARY

14 NOV 1975

Mr. Roman H. Koenings
Project Manager
Environmental Impact Statement Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
Department of the Interior
Washington, D. C. 20240

Dear Mr. Koenings:

We have reviewed the environmental impact statement (EIS) on the Alaska Natural Gas Transportation System and offer the following comments.

Transportation Impacts

1. It will be necessary for the responsible DOI agency to obtain a permit from the highway department of each state traversed by the pipeline for use of their right-of-way for transmission line crossings. The state highway departments will be interested in safety, handling of traffic during construction, restoration of the right-of-way, and visual impacts created by a gas line utilizing an existing bridge. Additional comments from the Federal Highway Administration (FHWA) are enclosed.

2. Comments from the Federal Aviation Administration on the impact of the pipeline on airports and services are enclosed.

Social and Economic Impacts

1. Part II of the EIS should discuss the impact the project will have on local residents and communities along the proposed pipeline route. Extensive consideration of these factors seems necessary in light of the severe social and economic impacts, as well as impacts on public services and facilities, which have arisen during the construction of the Alaska oil pipeline.

2. There is a commitment to hire 25% of the work force locally in all the states the pipeline crosses, except Alaska. The EIS clearly states that there is no commitment to hire Alaskan Eskimos, Indians, or Aleuts. Since the Alaskan Government has adopted a plan (Alaskan Plan) which is designed to increase minority union membership, there should be a commitment to implement this plan. The EIS avoids this issue by discussing the commitments made by the oil pipeline. It appears that efforts should be made to employ as many Alaskan natives as possible since there will be approximately 6,300 trained Alaskan natives at the end of the oil pipeline project.

3. Part II of the EIS should also discuss the impact of the project workers on housing when there is a lack of adequate housing in Alaska. The applicant proposes to provide temporary housing for workers who are not living with their families. However, no such provisions are made for workers who will bring their families or for workers involved in ancillary activities.

4. The analysis of noise on the areas surrounding the project should be expanded to include an analysis of mitigating measures for truck traffic through communities. The truck noise will range from 68 dBA to 98 dBA at 50 feet from the edge of the roadway and several community roads will be used for truck access to the pipeline. This will result in extremely high noise levels in those communities. The EIS states that there are no criteria to evaluate the truck noise impact. However, the FHWA has developed guidelines for the review and analysis of highway generated noise. These guidelines should be used in evaluating the impact of the truck traffic on the communities. A copy of these guidelines is enclosed for your reference.

5. Several states have noise control laws and the EIS should indicate that the applicant will comply with their laws.

6. An evaluation of the impact which the high construction noise levels will have on the wildlife breeding areas should be included in the EIS. A secondary impact of the high construction noise levels, if the wildlife abandoned present breeding areas, could be a loss of food and income for some of the Alaskan natives since 50% of the natives who live outside of large cities depend on the wildlife for subsistence.

7. The EIS should discuss the impact of the proposed pipeline on the Ft. Peak Indian Reservation. The discussion should include the existing usage of the land that will be needed for the construction of the pipeline and the proposed method of compensation for the land that will be taken.

8. The pipeline crosses several fault zones. The EIS should discuss the effects an earthquake would have on the natural gas pipeline and the possibility of avoiding some or all of these fault zones.

Alternatives

In view of the adverse impacts associated with the pipeline, a more detailed analysis should be presented on the other alternatives studied.

Pipeline Safety

Comments from the Office of Pipeline Safety Operations are enclosed.

We appreciate the opportunity to review and comment on the draft EIS.

Sincerely,

Judith T Connor

Judith T. Connor
Assistant Secretary for Environment,
Safety, and Consumer Affairs

Enclosures

Form FHWA 121 (Rev. 7-72)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Region 8

SUBJECT: EIS Prepared by Another Agency
Alaska Natural Gas Transportation
System; Vols. I, V, VI, and VII

DATE: October 15, 1975

In reply refer to: 08-00.21

FROM: Director
Office of Environment and Design

TO: Mr. Rex I. Wells, Chief
Environmental Development Division
Washington, D.C. 20590

ATTN: Mr. Jeff Thwing
HEV-10

We have reviewed the subject EIS and offer the following comments:

1. On page V-818, the State and local highways of northeastern South Dakota are classified as "relatively undeveloped." An explanation of how this classification was arrived at and the associated implications should be included in the EIS.

2. Throughout the volumes, specifically pages I-062 and V-089, references are made to the construction methods used to cross public highways. The choice of the crossing methods, either laying the pipe in an open cut trench or driving the pipe under the highway, is determined on the class of road, the jurisdictional requirements, and the traffic figures. It is suggested these three determining features should be further explained.

3. On page I-297, Aberdeen is stated as being in North Dakota. The state should be changed to South Dakota.

4. It is felt that the term "primary railroads" should be defined as in its use in figure 2.1.3.11-8. This figure shows the pipeline crossing only 2 of South Dakota's railroads. Plotting the proposed route on one of our maps, seven crossings are encountered.

-more-

TO: Mr. Rex I. Wells, Chief
Environmental Development Division -2- October 15, 1975

ATTN: Mr. Jeff Thwing

5. We noted that on page V-089, the statement reads that unpaved private and public roads as well as paved county roads carrying little traffic will be crossed by means of open cut if approved by the owner or appropriate regulating agencies. While this is probably a satisfactory method for most of these types of roads, we believe a firm policy based on average daily traffic and ease of detour would be a better method for determining which roads should be open cut and which will either be jacked or bored.

6. We recommend the chapter on underground utility crossings from the AASHTO Policy on the Accommodation of Utilities on the National System of Interstate and Defense Highways (see attached marked copy) be included in the Impact Statement.

F. S. Allison

Attachment

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ALASKAN REGION
632-SIXTH AVENUE
ANCHORAGE, ALASKA 99501
TELEPHONE 272-5561

DATE: OCT 2 1975

IN REPLY REFER TO:

SUBJECT: DEIS, Alaska Natural Gas Transportation System

FROM: Acting Director, AAL-1

TO: AEQ-1
Atten: AEQ-120

In the limited time available, we have reviewed the 17 volume DEIS. We also attended the hearing held in Anchorage on September 25-26, 1975, during which no significant new information was developed.

The following comments are arranged with reference to specific pages:

I-283	Deadhorse is a State owned, public use airport. Daily scheduled air carrier service is provided by Wien Air Alaska.
II-21	Proximity of the 14 helipads and 6 airstrips to the gas line, compressor stations, etc., should be examined by FAA in terms of air space clearances, fire or explosion hazard, and creation of obstructions to visibility.
II-45	Table 1.1.1.2-4 Barrow - A Fire-Crash-Rescue building and vehicle are being procured by the State of Alaska under an ADAP Grant. Deadhorse - There is a small vehicle equipped for 500 lb. dry and 100 lb. light water firefighting capability.
II-68	Data shows a $2.2 million expenditure in 1980 for air support. Nothing is shown for the earlier years although reference to use of air transportation during those years is made elsewhere in the draft.
II-71	Transportation of personnel will be restricted to certain sizes and types of aircraft because airstrips will be limited to 2,400 feet in length. No mention is made as to what will be provided at the airstrips in terms of runway lights, navigation aids, communications, weather reporting, or fire/crash/rescue capability.
II-118/119	It is proposed to conduct air patrols of the pipeline at 100 to 150 feet above ground. The proposed procedure should be reviewed by FAA, particularly with reference to safety.

2

	No specific mention is made concerning transportation of personnel who will be making visual, on the ground inspections.
II-842-E	Impact on Transportation Some indication should be given whether or not the Deadhorse and/or Prudhoe airports will be the main jump-off points for flights along the pipeline and if they will be the main air freight transfer points. Wien, Alaska, and Alaska International Air will probably have no difficulty in handling gas pipeline freight to Deadhorse/Prudhoe unless their capabilities are simultaneously called upon in support of PET-4 or other similar major activity. Use of smaller aircraft to serve the 2,400 foot airstrips, rather than allowing direct access by larger aircraft, may result in extra flight operations in the area. Visibility and weather conditions inherent to the area will be complicated by emissions from compressor stations, camps, etc., generating local fog or ice fog conditions. This will impact on ability to carry out planned flight activities. There may also be a health hazard due to undetected gas or excessive nitrogen dioxide concentrations.
II-1108, paragraph 4; II-1112, paragraph 4; II-1121, 1st paragraph; II-1121, paragraph b)1; II-1122, paragraph 2; II-1123, 1st paragraph;	These paragraphs discuss safe operating altitudes to avoid wildlife disturbances. The wording seems to presume the applicant will be able to control what routes and altitudes will be used by aircraft operators. These are matters of concern to FAA and will require our attention.
II-2071	Airfield length shown as 24,000 feet should be 2,400 feet.
II-2244, VI-701;	PAA now operates only between New York and Fairbanks. It has discontinued the Fairbanks-Toyko operation.

Transportatinn experience during North Slope exploration/development, and construction of the TransAlaska Oil Pipeline, lead us to conclude the DEIS is deficient in terms of stated dependency on air transportation impact. In our opinion, construction of a gas pipeline will result in greater use of air support than described in the statements because of increasing uncertainties in historic barge support, restrictions on access

3

road construction particularly in previously undisturbed areas, and the difficulties inherent in use of snow and ice roads. For these reasons we believe the impact on air transportation requires greater in-depth analysis.

RICHARD L. FAILOR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NORTHWEST REGION
FAA BUILDING KING COUNTY INT'L AIRPORT
SEATTLE, WASHINGTON 98108

DATE: October 16, 1975

IN REPLY REFER TO: ANW-4A

SUBJECT: DEIS, Alaska Natural Gas Transportation System

FROM: Chief, Planning Staff, ANW-4

TO: Chief, Environmental Policy Division, AEQ-100
Attention: Chief, Public Liaison Branch, AEQ-120

The Northwest Region has reviewed the DEIS for the above system relative to this region.

From the maps of the pipeline location, it appears that the pipeline will be located about one mile from airports at Sandpoint, Idaho; Redmond, Oregon; and Bend, Oregon. If our interpretation of the maps is correct, there is no conflict with these or other airports or air navigation facilities in the region.

With reference to 11-118/119, it is proposed to conduct air patrols of the pipeline at 100 to 150 feet above the ground. The procedures for the air patrols must be coordinated with the FAA regional office to assure compatibility with other airspace users.

Hans J. Sperber
HANS J. SPERBER

UNITED STATES GOVERNMENT
Memorandum

DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU

DATE: OCT 28 1975

In reply refer to:

TO: Director, Office of Environmental Affairs
TES-70

FROM: Acting Director, Office of Pipeline Safety Operations

SUBJECT: Comments to Draft Environmental Impact Statement, Department of the Interior, Alaska Natural Gas Transportation System

The Office of Pipeline Safety Operations (OPSO) has reviewed sections of the draft EIS which we felt pertained to the Federal gas safety standards in 49 CFR 192. Following are general comments based on that review:

(1) The Federal gas safety standards are cited many different ways in the draft EIS. The proper citation is "49 CFR 192" for the entire standard or, for instance, "49 CFR 192.13" for a particular section in the standard.

(2) All references to the Office of Pipeline Safety (OPS) should be changed to the Office of Pipeline Safety Operations (OPSO), since OPSO in the Materials Transportation Bureau now administers the Federal gas safety standards.

Following are specific comments on parts of the draft EIS based on the OPSO review:

Part I - Overview

Page I-35: On this page, it is stated that OPSO's approval is necessary before gas transportation begins. This is not correct, since there is no approval procedure contained in 49 CFR 192.

Part II - Alaska

(1) Page II-55: In the pipeline description, there is no discussion on the fracture toughness properties of material to be used in the pipeline. This must be addressed, particularly for a pipeline which is to be operated at temperatures below freezing.

2

(2) Page II-99: In the discussion of coating and wrapping of the pipe, one technique suggested is to wrap the pipe with an unbonded outerwrap of polyethylene rockshield over the corrosion protection coating. This type of rockshield was not allowed for the Trans-Alaska crude oil pipeline because it shields cathodic protection current from the pipeline.

(3) Page II-981: The statement is made: "There appears to be sufficient data now available which indicates substantial problems with the use of low carbon X-70 steel at low ambient temperatures." Substantiation is not provided for the statement. Details on the referenced data should be included in the EIS.

Part IV - West Coast

(1) Page IV-757: The draft EIS indicates all welds must be radiographed to meet Federal requirements. The Federal gas safety standards in 49 CFR 192 do not require all welds to be radiographed. The standards in 49 CFR 192.243 set forth the minimum percentage of welds which must be nondestructively tested. All welds must be so tested on or within railroad or public highway rights-of-way, tunnels, bridges, overhead road crossings, and at pipeline tie-ins. In Class 3 and 4 locations and at crossings of major or navigable rivers, 100 percent if practicable, but not less than 90 percent, must be tested. In Class 2 locations, a minimum of 15 percent must be tested and in Class 1 locations, a minimum of 10 percent must be tested.

(2) Page IV-759: The draft EIS indicates that the "call before you dig" policy is standard operational procedure with utilities. Although that is certainly desirable, we believe that less than one half of gas utilities presently are involved in such a program.

Part V - North Border

Page V-1293: The draft EIS is critical of 49 CFR 192.615 concerning emergency plans. We have issued a Notice of Proposed Rule Making and are in the process of issuing a revision to the regulation clearly defining what should be included in emergency plans.

If there are questions concerning these comments, I will be happy to discuss them with you.

Cesar DeLeon
Cesar DeLeon, MTP-1

United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L7619-MQ

JAN 12 1976

Memorandum

To: Director, Office of Environmental Project Review

Through: Assistant Secretary for Fish and Wildlife and Parks RR 1-12

From: Acting Associate Director, Park System Management

Subject: Review of draft environmental statement for the Alaska Natural Gas Transportation Systems (ER-75/1153)

As requested in your memorandum of December 4, 1975, we have reviewed the subject statement. As indicated on page I-255, the Department issued a draft environmental statement concerning the Arctic Natural Gas Transportation System. The National Park Service has provided comments to the EIS Task Force regarding that project. The following comments are limited to the El Paso proposal.

General Comments

The statement recognizes that substantial additional effort must be expended to identify presently unrecorded cultural (historical, archeological, and architectural) properties, to determine the significance of known and presently unrecorded properties, and to develop measures to avoid or mitigate adverse impact to them. Due to a lack of information, the statement admits that it is impossible to qualifiably and quantifiably assess the proposal's probable impact to cultural resources.

Little attempt has been made to fulfill the requirements of E.O. 11593 and Section 106 of the National Historic Preservation Act of 1966 and the procedures of the Advisory Council on Historic Preservation (36 CFR Part 800).

From the information presently available and contained in the draft statement and due to the nature of the project, it is admitted that there exists substantial potential for adverse impact to occur to significant cultural properties.

The Federal Power Commission staff has recommended (see pages II-522-523 and III-379) that a programmatic approach be adopted to ensure that cultural resources are properly safeguarded. Such an approach should specifically provide for compliance with E.O. 11593 and the Advisory Council on Historic Preservation's procedures. Consultation with the Department of the Interior (Departmental Consulting Archeologist, National Park Service, Interior Building, 18th and C Streets, N.W., Washington, D.C. 20240) and the Advisory Council on Historic Preservation should be undertaken to revise the approach proposed by the FPC staff.

The fact that this programmatic approach has been offered as a staff recommendation indicates that there is no present commitment to its adoption. We highly recommend that the FPC adopt such an approach and suggest that failure to adopt it or to take other comparable measures would result in violation of national cultural resource preservation policy. The final environmental statement should contain commitment to adopt a programmatic approach as prepared through consultation with the Advisory Council on Historic Preservation and the Department of the Interior.

It appears that implementation of such a programmatic approach will greatly reduce the incidence and magnitude of adverse impact to cultural resources as reported in the draft statement. The text of the statement should be amended to reflect the benefits to be accrued from implementation of this approach.

Raymond L. Freeman

United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L7619-MQ

15 JAN 1976

Memorandum

To: Director, Office of Environmental Project Review

Through: Assistant Secretary for Fish and Wildlife and Parks RR 1-15

From: Acting Associate Director, Park System Management

Subject: Additional comments on the review of the draft environmental statement for the Alaska Natural Gas Transportation Systems (ER 75/1153)

We would like to supplement our comments of January 12, 1976, on the subject statement. Our additional comments follow.

In Volume I of the Draft Environmental Impact Statement, Section C makes a comparative assessment of the proposed Arctic Gas System that would transport natural gas from northeastern Alaska across Canada to the central U.S. and El Paso Alaska System, which would bring the gas southward through Alaska to liquification and port facilities in south-central Alaska.

In discussing alternative routings of the Arctic Gas System, the DES, on page I-221 examines one alternative which would take the pipeline from the Fort Yukon area up the Yukon Valley into Canada. Such a routing would impact three proposals for nationally significant conservation areas made by the Secretary of the Interior in the Alaska Conservation Act of 1975, now before Congress. These three proposals are for a Yukon Flats National Wildlife Refuge, a Porcupine National Forest, and Yukon-Charley National Rivers, that would be a unit of the National Park System. There is no discussion of how this alternative might affect these proposals.

Similarly, in Volume II of the DES, describing El Paso Alaska System, Section H, covering Alternatives to the Proposed Action, also overlooks park and related proposals in the Alaska Conservation Act of 1975. Only in discussing an alternative pipeline to Western Alaskan Ports does the DES mention the proposed Gates of the Arctic National Park (II-380). This alternative, which was not recommended by El Paso, is not specific as to routing, and might impact other proposals besides the Gates of the Arctic. Alternative routes through the Brooks Range (alternative a) discussed on pages II-378 and 379, also would impact the proposed Gates of the Arctic National Park, for both the Itkillik and John River routes would traverse the heart of the proposal area. This is not mentioned.

Alternative f (discussed beginning page II-383) would route the gas pipeline down a broad, tentatively designated multi-mode utility corridor generally following the Alaska Railroad from south of Fairbanks to Cook Inlet. However, the routing does not remain close to the railroad but in many places would impact fresh, unspoiled country some of which may have significant scenic and recreational values. The Yanert Valley, for example, has been noted as having special value for primitive types of outdoor recreation and is an area recreationally complementary to Mount McKinley National Park. Such impacts of Alternative f are not analyzed and discussed. As a further example, nothing is said about what visual impact such a routing might have as viewed from the Park.

The routing traverses a Cooperative Planning and Management Zone proposed in the Alaska Conservation Act of 1975 as an area "within which resource use and development are critical to the proper protection, management, and interpretation of the park." The legislation would direct the Secretary of the Interior to report to Congress as to whether or not effective land use controls in the zone have been instituted. Nothing is said in the DES about how the alternative routing would affect this zone and its protection of environmental values.

This omission is particularly serious inasmuch as this alternative is recommended by the Federal Power Commission staff over El Paso's proposed routing.

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

OFFICE OF THE
ASSISTANT DIRECTOR
FOR ASTRONOMICAL,
ATMOSPHERIC, EARTH,
AND OCEAN SCIENCES

October 28, 1975

The Honorable Kent Frizzell
Acting Secretary of the Interior
United States Department of the Interior
Office of the Secretary
Washington, D.C. 20240

Dear Mr. Frizzell:

Several individuals in the National Science Foundation have had an opportunity to review your draft EIS on the Alaska Natural Gas Transportation System and have no comments to offer.

Sincerely yours,

Edward P. Todd
Edward P. Todd
Deputy Assistant Director

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

HEALTH AND
ENVIRONMENT

7 NOV 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
U.S. Department of Interior
Bureau of Land Management (302)
Washington, D.C.

Dear Mr. Koenings:

This is in response to your request of July 25, 1975, for our comments on the Department of Interior's draft environmental impact statement on the Alaska Natural Gas Transportation System.

The proposed project to bring natural gas from Prudhoe Bay to the contiguous United States will have one branch terminating at Cajon, California, to supply the Los Angeles basin. As proposed, the pipeline to service this area would cut across the western most boundary of the Naval Weapons Center (NWC), China Lake, California.

We are opposed to the intrusion of the pipeline for several reasons. First, the construction and maintenance of the line will seriously constrict the schedule for the China Lake Test Range Complex. Secondly, the nature of the NWC mission could damage the pipeline unintentionally. Additionally, ingress and egress for both construction and maintenance would pose serious problems with both test scheduling and center security. As an alternative to setting the pipeline on land under DoD jurisdiction, I strongly recommend that the utility corridor right-of-way just west of the station boundary be considered in lieu of the DoD area.

Please advise us of your acceptance of this alternative. If you wish to discuss this in further detail, please contact myself or Mr. H. R. Smith. We will be happy to host a meeting between Interior and DoD personnel.

Sincerely,

George Marienthal
George Marienthal
Deputy Assistant Secretary of Defense
(Environmental Quality)

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

REPLY TO
ATTENTION OF:
DAEN-CWR-P

12 November 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Department of the Interior
Bureau of Land Management
Washington, D.C. 20240

Dear Mr. Koenings:

As requested in your letter of 25 July 1975, we have reviewed the Draft Environmental Impact Statement on the "Alaska Natural Gas Transportation System." We offer the following comments.

The statement contains considerable useful and important information; however, the effectiveness of this information is diminished because it does not give enough detail on the specific alignment of the pipeline to adequately predict the impacts upon waters of the United States and Corps of Engineers water resources development projects.

Department of the Army permits required under Section 10 of 1899 River and Harbor Act and/or Section 404 of the Federal Water Pollution Control Act Amendments of 1972 would be required for some river crossings. As noted on page V-992, the final routing is yet to be determined. Consequently, determination of specific impacts at any crossing site cannot be assessed based upon the Draft EIS and must await receipt of applications for Section 10 and Section 404 permits. Permit applications are to be submitted to the appropriate Corps of Engineers District offices for processing. Such applications should include pertinent environmental, social and economic information needed to make an adequate assessment of the crossings.

Pipeline crossings of any lands or installations under control of the Department of the Army or Department of the Air Force would require an easement subsequent to approval by the Secretary of the affected Department. These easements would be issued separately for each installation crossed, as opposed to issuance of navigation permits on a project or District basis.

Thank you for the opportunity to review this statement.

Sincerely yours,

J R Hill
JOHN R. HILL, JR.
LTC, Corps of Engineers
Assistant Director of Civil Works,
Environmental Programs

UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
WASHINGTON, D.C. 20545

NOV 3 1975

EIS Task Force
Alaska Natural Gas
  Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

This is in response to your transmittal dated July 25, 1975, inviting the U.S. Energy Research and Development Administration (ERDA) to review and comment on the Department's Draft Environmental Statement prepared by the Bureau of Land Management entitled, "Alaska Natural Gas Transportation System". We have reviewed the Statement with particular attention given to Part I, Volume I, and Part VI, Volume I, especially Domestic Coal, Synthetic Natural Gas, and Nuclear Power Alternatives.

As a Nation, we need environmentally sound options for the maximum production of each type of energy. Natural gas is a highly desirable fuel and feedstock. In natural form or synthetic equivalent, we think it merits being made available as a consumer option.

Oil production at Prudhoe Bay, Alaska, will liberate natural gas which, by State of Alaska law, cannot be flared, but if not used constructively, must be reinjected into the deposit. In Canada, in the Mackenzie Delta-Beaufort Basin, potential recoverable gas is estimated to be substantial. Availability of this gas to meet Canada's future energy requirements could be an incentive for Canada to approve a pipeline of this nature within Canada and to share its capacity. The natural gas which would be delivered to the United States will be needed in California and the Midwest.

The Draft Statement presents, in an acceptable manner, the recognized environmental handicaps associated with the mining and utilization of coal. It is stated (VI-183) that the feasibility of producing synthetic natural gas from coal as an alternative to the proposed Arctic Gas System depends upon the rates at which technological systems are developed, tested, and proved economical, and on the commercial scale that plants are built. The Draft further states that Montana, Wyoming, and North Dakota will be major supply centers for coal gasification.

The Statement also points out that if synthetic natural gas were to substitute for the Arctic Gas System, a pipeline would be required to move the synthetic gas from the Northwest into the Midwestern and Eastern markets.

The alternatives section in the Final Statement can be strengthened by giving greater attention to the energy alternatives that are available to California. These include: offshore oil and gas from the Santa Barbara area, offshore oil from Alaska, low sulfur Alaskan coal, solvent refined coal produced from Alaskan coals, or Prudhoe Gulf gas piplined to the southern coast of Alaska, converted into LNG and delivered to California.

Some recognition should be given to synthetic oil made from coal. ERDA is engaged in a demonstration project to produce synthetic oil from coal. This oil will substitute for natural gas and oil in boilers and in industrial applications and is expected to make a major contribution to energy supply.

The discussion of nuclear power as an alternate to the proposed system is generally accurate and the treatment afforded it as an alternative is fair and reasonably objective. The enclosed staff comments are offered for your consideration in preparing the Final Statement. We feel that these comments will improve the Nuclear Power Alternative section.

Thank you for the opportunity to provide these comments.

Sincerely,

W. H. Pennington
Assessments and Coordination
  Officer
Division of Biomedical and
  Environmental Research

Enclosure:
Staff Comments

cc: CEQ (5) w/encl.

STAFF COMMENTS ON DRAFT ENVIRONMENTAL STATEMENT, ALASKA NATURAL GAS TRANSPORTATION SYSTEM NUCLEAR POWER ALTERNATIVE SYSTEM

Page VI-22, last paragraph

Estimates of plutonium recycle are probably overoptimistic in light of recent Nuclear Regulatory Commission actions.

Page VI-225, Table 8-47

U_3O_8 costs are too low, per present indications. (Note - this fact influences the discussion on pages VI-224 to VI-227).

Page VI-228, last paragraph, first sentence

Suggested revision - As of mid-1975, nuclear power was generating about 8% of the Nation's electricity.

Page VI-237, second paragraph, second sentence

Suggest deleting this sentence or changing "would" to "might".

Page VI-238, first full paragraph

Suggested replacement for this paragraph "Present regulations require that the liquid high-level waste from fuel reprocessing be converted to a stable solid material within five years after separation in the fuel reprocessing step and that it be encapsulated and shipped to a Federal repository within ten years of its production. Thus, operation of the 23,000 MW of incremental nuclear capacity would lead to the production of about 1265 cubic feet of high-level wastes annually."

Page VI-238, last sentence

Suggest deleting this incorrect sentence and replacing it with the following two paragraphs:

"As an interim measure for storing solidified wastes from commercial operations, the Atomic Energy Commission (AEC), in May of 1972, announced plans for the design and construction of a Retrievable Surface Storage Facility (RSSF). The RSSF would be designed to store these wastes safely for as long as a century, if necessary. As its name implies, it is intended that these stored wastes be retrieved and moved to permanent storage facilities when such facilities are established. The goal of the permanent storage development program is to have permanent disposal methods available in two to three decades.

"At present, ERDA plans further study of several promising geologic formations other than bedded salt, including study of specific promising sites, to bring the knowledge of these other formations up to the same level as that of present knowledge of bedded salt. The goal of this further study is to permit a comparative evaluation of these formations and the selection of the optimum formation or formations for pilot plant operations. In the late 1970s, this further study and evaluation program is expected to permit a decision and a request to Congress for authorization and appropriation for a specific geological disposal pilot plant at a specific site."

Trust Facilitation
EQ

UNITED STATES GOVERNMENT

Memorandum

TO : Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management

DATE: NOV 3 1975

FROM : Acting Director, Office of Trust Responsibilities - BIA

SUBJECT: Review of draft environmental statement on the Alaska Natural Gas Transportation System

In response to your request of July 26, the Alaska Natural Gas Transportation System (ANGTS) Environmental Statement has been reviewed with particular reference to locating potential affects on Indian trust lands and rights under the jurisdiction of this Bureau.

Our reviewers reported that portions of the transportation system may involve Indian trust lands and negotiations for acquiring rights-of-way may be necessary. The areas of specific concerns are northern California and eastern Oregon of the West Coast part and northeastern Montana of the North Border part.

It is recommended that early negotiations be undertaken with affected tribes and/or Indian allotters to prevent conflicts. It should be understood that as Indian tribes they have a quasi-state authority for the health and general welfare of their people in addition to agreeing to the specifics of trust actions taken by the Secretary of the Interior.

Our review did not identify environmental issues which would significantly modify impact related to Indian lands being influenced by the proposed ANGTS.

William L Benjamin

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

SEP 29 1975

Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings,

The staff of the Federal Power Commission (FPC) has reviewed the U.S. Department of the Interior's Alaska Natural Gas Transportation System Draft Environmental Impact Statement which was received on July 28, 1975 and herein offers comments.

Part I Overview

a) On page I-6, it is stated that "the Prudhoe Bay Field has proven reserves of 26 trillion cubic feet" but with no source for these estimates. However, on page V-003 it is stated that this estimate was made by the American Petroleum Institute. Such reserve figures, when used, should always reference the source. It should also be noted that the applicant, Alaskan Arctic Gas Pipeline Company (Alaskan Arctic), hired the consulting firm of DeGolyer and McNaughton to determine an estimate of the proven reserves in Prudhoe Bay. Their report listed proven reserves at about 22.5 trillion cubic feet.

b) On page I-6, the Richards Island and Parsons Lake areas are said to contain estimated reserves in the range of 13 trillion cubic feet. Based on the presentation of Alaskan Arctic by the consulting firm of DeGolyer and McNaughton, the McKenzie Delta region presently only contains proven reserves of 3,557,166 million cubic feet with an additional 556,257 and 2,239,645 million cubic feet of probable and

possible reserves. Most of the data behind these estimates is confidential, which prevents public evaluation.

c) On page I-33, it is stated that the Northern Border Pipeline Company (Northern Border) line would cross oil and gas areas in several states. These areas are traversed by existing pipeline systems, and it is not expected that Northern Border would connect any of these reserves to its system because of its large diameter high-pressure line.

d) On page I-502, it is stated that "The proposed pipeline during its construction phase would provide temporary, mostly unskilled jobs to a majority of employable males." This statement is inaccurate since much of the construction activity will require the talent of many different types of skilled technicians such as welders, mechanics, surveyors, heavy equipment operators, pipefitters and others.

Part II Alaska

Alaskan Arctic Gas Pipeline Company Proposal

a) The map on page II-23 presents the estimated speculative petroleum potential for the State of Alaska from numerical values presented on page II-22. However, since the discussion concerns potential natural gas resources for Alaska, shouldn't this map be replaced by one which presents the estimated speculative natural gas potential, which is shown on page II-22?

b) On page II-27, (1) Origin and Terminus, it should be noted that the compression and chilling facilities would not be constructed or operated by Alaskan Arctic, but that these facilities would be part of the producer's operations.

c) Beginning on page II-81, there is a discussion of the projected construction schedule of Alaskan Arctic. At the present time construction involving the ditching and laying of the pipeline in Alaska has been projected for the winter period 1979-80. Alaska Arctic has said that this was based upon an assumption that regulatory approvals from both the Canadian and American governments would be forthcoming by December 1975. This now seems unattainable

and because of this Alaskan Arctic is now making an additional study to see if its construction schedule could be modified to maintain the 1979-80 date. If the schedule cannot be so modified, it would result in a one year schedule slippage.

d) Seismic sensors are indicated in Figure 1.1.1.5-4, page II-86, but are not again referred to anywhere in the discussion of the proposed action. A description of the sensors and their function should be included with the description of ancillary facilities.

e) In addition to the welding procedures stated on page II-99, it should be indicated that all welding procedures and inspections would conform to DOT 49 CFR, Part 192, Subpart E.

f) On page II-105, the correct reference to the Federal regulations in paragraph 3 should be (DOT, 49 CFR, Part 192).

g) Page II-201 - see comment a) for Part I Overview.

h) In order to reduce the potential for significant environmental impacts associated with testing the pipeline with a methanol-water solution, as cited on pages II-669 and 699, such as differential settling of the pipeline and spillages of methanol, it should be recommended in the mitigation section that, except at stream crossings, compressed air be used to test the pipeline.

i) The statement, "There appears to be sufficient data now available which indicates substantial problems with the use of low carbon X-70 steel at low ambient temperature", on page II-981, should be supported by specific information and with references of where this data is available; if such information is not available, this statement should be deleted.

j) The calculations which appear in pages I1-1194 thru 1197 would be better understood and more meaningful if all terms were identified and explained, e.g., instead of t = 0.8 in., use t = wall thickness = 0.8 in. A written explanation or synopsis of what is being calculated and how this is being performed would be also helpful.

k) In the last sentence on page II-2422, it is stated that "the ultimate throughput would be an estimated 3.5 to 4.5 bcf/ld" (bcf/ld is not a term normally used by the industry or the Commission; if its use is necessary, define the term when first used). It should be indicated what would account for this range, i.e., under what conditions would throughput be 3.5 bcf/ld and under what conditions could throughput reach 4.5 bcf/ld. Show how by utilizing the same compressor horsepower, maximum pipeline pressure and temperature with a smaller (42-inch diameter) pipeline could achieve the same throughput rate as the larger (48-inch diameter) pipeline. What element(s) does change?

l) Comments of Fact

It may be appropriate to distinguish between subpermafrost groundwater and suprapermafrost groundwater for the reader on page II-272-273. The water discussed in the first paragraph on page II-273 could then not be misconstrued to be of subpermafrost origin. It would also clarify the ground icing description on page II-281.

Throughout Part II (Alaska), though not with any consistency, measurements are given in English units followed by the metric equivalent. This method of notation is confusing and inconsistent with the remaining parts of the DEIS. Our recommendation is that since most of the tables, figures and charts are in English units, you discontinue the use of metric equivalents and provide an equivalency table in the Appendix for such conversions.

Part IV West Coast

Pacific Gas Transmission Company (PGT) Proposal

a) On page IV-4, there is a discussion of the gas which could be available for Pacific Gas & Electric Company (PG&E). Exxon Company, USA (Exxon) has entered into a letter of intent with PG&E, which would give PGT the right to negotiate a gas purchase contract for 30 percent of Exxon's interests in Prudhoe Bay.

b) Provide the source of information for the estimated annual volumes of additional gas supplies to PG&E from Alberta, and MacKenzie Delta, Canada, and Alaska listed in Figure 1.1.4.1-1 on page IV-5.

c) Page IV-5 - see comment a) for Part I Overview.

d) On page IV-10, it should be noted that additional supplies of gas will be available from offshore California by 1980. On August 16, 1974, the Department of the Interior approved Exxon's plan of development for producing oil and gas from the Santa Ynez Unit, Santa Barbara Channel. The application for gas treatment and transmission facilities is currently pending before the Federal Power Commission (FPC). As currently planned, Exxon would begin oil production in the later part of 1976 and begin deliveries of approximately 26,000 Mcf per day of gas sometime in 1978. Substantial additional reserves are projected for OCS lease offshore California.

e) It should be noted on page IV-50, paragraph (g), that in areas of lava flows, rock shields or padding material would be used, in addition to the coating, because of the sharpness and abrasive nature of the lava fragments.

f) Page IV-61, the second complete paragraph, line 5 states, "However, it is planned to construct the new pipeline in stages." This contradicts page IV-43, paragraph 4, line 1 which states that "Construction is planned to be completed in one stage..." This contradiction should be resolved. Our understanding is that the statement on page IV-43 is correct.

g) The discussion on pages IV-729 and 730 concerning pipeline leaks and ruptures would be of more benefit to the reader and provided a more objectively analysis of the data if the number of incidents were put into perspective, e.g., incidents per mile of pipeline or volume of gas lost versus total volume shipped. In addition, the third paragraph on page IV-729 adds little to the overall discussion and contains only one case which is applicable to transmission pipelines.

h) On pages IV-733 thru 737 beginning with the sentence, "The general and incorrect assumption is that..." and following through the subsequent discussion pertaining to the formation of a heavier-than-air cloud of methane gas that would form if a break were to occur in the transmission line, the reader is lead to believe that the information presented is a proven fact, whereas it is entirely conjecture based on theoretical calculations. There are also basic inaccuracies which make these theoretical assertions suspect in their conclusions. Methane gas cannot achieve a temperature of -300°F under the described situation or "be over three times heavier than air", as is stated. In reality, the gas would liquify at -259°F at which point maximum gas density is reached at a value only one and one-half times heavier than that of air. Additionally, the theorized conclusions have never been documented or observed under actual field conditions. Therefore, Section C should be rewritten and the prediction of methane cloud formation put in proper perspective. The analysis which resulted in these theoretical conclusions should be reevaluated in terms of factual accuracy and significance of results. If such a reevaluation supports the probability of the formation of a low-lying methane cloud, the damage which could result from such an occurrence should be presented in a proper speculative manner.

i) On page IV-767 a mention is made that relocation around the Moyie River Valley would greatly reduce impact on this river but no details are given for a proposed route relocation. The alternative route should be identified and the benefits of relocation should be discussed.

j) Comments of Fact

The term "in the vicinity of the pipeline right-of-way," as stated on page IV-24, is too nebulous and should be substituted with a range in miles to which the data applies.

The figure located on page IV-363 should include the grizzly bear (Ursus horribilis), since it has recently been added to the list of Federal Endangered Species occurring along the pipeline route.

The number and locations of all proposed hydrostatic test water discharge areas should be identified. The statement on page IV-547 leaves one with the impression that there is only one discharge point, the one located at Lake Britton.

The land to be cleared alongside the existing right-of-way is estimated to be 50 feet wide on page IV-561. However, the applicant states on page I-8 of the original PGT-PG&E application, "that an additional strip from 20 to 30 feet wide would be required in private lands and strips from 25 to 40 feet wide would be required in public lands."

The alternative discussion of the pipeline route from Antioch (San Francisco area) to Cajon (Los Angeles area), California through the San Joaquin Valley, as found on page IV-841, should be expanded to include a more detailed discussion of the route, particularly the fact that it makes maximum use of existing rights-of-way. It is the FPC's staff view that this alternative route would extend due south from Antioch Terminal to Brentwood Terminal where it would meet an existing 26-inch Standard Pacific Gas Line, Inc. (StanPac) pipeline right-of-way. The proposed route would follow along this StanPac right-of-way to Panoche Junction where it would pick up two 34-inch PG&E pipeline rights-of-way. The proposed route would follow the PG&E rights-of-way to Bakersfield where it would pick up a 34-inch Pacific Lighting Service Company (PLS) pipeline right-of-way which extends south-southeast to Quigley Canyon Station. Subsequent gas delivery to the Los Angeles area could then be made from Quigley Station. If it would be necessary to hook up the proposed pipeline to Cajon, the route could continue on from Quigley Station and follow an existing PLS 30-inch pipeline right-of-way to the Cajon area.

Lake Britton in Shasta County, California, is presently part of a licensed hydroelectric project of PG&E. Therefore, PG&E must apply to the FPC for a change of land rights permit for the land to be used as a right-of-way for the proposed Lake Britton crossing.

Part IV West Coast

Interstate Transmission Associates Arctic (ITAA) Proposal

a) On pages 927-28, there is a discussion of the gas which could be available for the ITAA system. Atlantic Richfield Company (Atlantic Richfield) and Pacific Lighting Gas Development Company (Pacific Lighting), an affiliate of ITAA, have entered into an agreement which gives Pacific Lighting the right to negotiate a gas purchase contract for 60 percent of Atlantic Richfield's Prudhoe Bay interests. Pacific Lighting is also engaged in a gas exploration program in the Kavik basin area.

b) Page IV-953 - see comment d) for PCT.

c) On page IV-958, it is unclear what is meant by "until the design capacity of 1,200 is reached." Does this refer to 1,200 MMcf/d or 1,200 psig?

d) On page IV-980, it is indicated that in some areas blasting will be necessary on the ITAA route. ITAA has indicated to the FPC staff that approximately 15 miles of its route from Kingsgate to Meacham, Oregon, would require blasting and an additional 6 miles would require blasting from Meacham, Oregon, to the California-Nevada border.

e) Page IV-1824 - see comment g) for PGT.

f) Page IV-1827 - see comment h) for PCT.

g) Along with other recommendations listed on page IV-1915, it should be indicated that all valves should be operated, and lubricated if necessary, at least twice a year.

h) Northwest Alaska Company, in a supplement to its filing in Docket No. CP75-250, indicated to the FPC that an interconnection between its pipeline and the proposed ITAA pipeline in the vicinity of Meacham, Umatilla County, Oregon would need to be constructed. This interconnection should be included in the discussion of the Final Environmental Impact Statement.

i) Comments of Fact

The length of the river crossings required for construction of the proposed pipeline should be included in Figure 1.1.5.4-2 on page IV-967.

On page IV-980, it should be noted that extensive blasting would be required through areas of volcanic rock, and that in these areas blasting does present difficulties due to the unknown manner in which volcanic rock might fracture.

Part V Northern Border

Northern Border Pipeline Company Proposal

a) It is indicated on page IV-003 that only two Northern Border associated companies have letters of intent to purchase Alaskan gas. At the present time all the natural gas transmission companies associated with Northern Border have entered into some sort of agreement with one or more of the major producers of gas of the North Slope for the right to negotiate a gas purchase contract as indicated below:

PURCHASER	SELLER
Columbia Gas Transmission Company	Sohio (100% of reserves)
Northern Natural Gas Company	Exxon Company, USA (25% of reserves); BP Alaska Company (100% of reserves)
Panhandle Eastern Pipe Line Company	Atlantic Richfield Company (20% of reserves)
Michigan Wisconsin Pipe Line Company	Exxon Company, USA (25% of reserves)
Texas Eastern-Pipeline Company	Atlantic Richfield Company (20% of reserves)
Natural Gas Pipeline Company of America	Exxon Company, USA (20% of reserves)

Texas Eastern has assigned 25 percent of its interest in its contract with Atlantic Richfield to its affiliate, Transwestern Pipeline Company.

b) Between pages IV-003 through IV-007 an analysis is made of the amount of gas which could become available to the Northern Border system. Because of the many factors involved, from the Canadian regulatory situation to the fact that at present no unitization agreement for the Prudhoe Bay field has been approved by the State of Alaska, any estimate should be accepted with the greatest amount of caution. As far as speculative reserves are concerned therein, it has generally been the Commission's policy that the size of a pipeline should not be influenced by speculative reserves although they could be a factor in the selection of pipeline routing.

c) On page V-010 it is stated that Michigan-Wisconsin Pipeline Company (Michigan-Wisconsin) has filed an application with the FPC to construct and operate four coal gasification plants in North Dakota. This is not correct. Michigan-Wisconsin and ANG Coal Gasification Company (ANG Coal) in Docket No. CP75-278 have requested a certificate authorizing (a) the sale in interstate commerce by ANG Coal to Michigan-Wisconsin of commingled natural gas and synthetic natural gas produced from coal, and (b) the construction and operation of facilities to enable Michigan-Wisconsin to receive and transport synthetic gas commingled with natural gas. The coal gasification project associated with this application is that proposed to be constructed in the general area of Garrison Reservoir, North Dakota, about 15 miles from the proposed Northern Border route.

d) Page V-1246 - see comment g) for PCT.

e) Page V-1250 - see comment h) for PGT.

f) Six companies have applied to the FPC for permission to construct interconnections between their existing pipelines and the proposed Northern Border pipeline; these interconnections should be incorporated into the discussion of the Final Environmental Impact Statement.

Columbia Gas Transmission Corporation, in Docket No. CP76-42, has petitioned the FPC to construct and operate three interconnections.

1. Northeast of Homer, Burlington Township, Licking County, Ohio
2. South of Strabane, North Strabane Township, Washington County, Pennsylvania
3. South of Delmont, Salem Township, Westmoreland County, Pennsylvania

Michigan Wisconsin Pipe Line Company, in Docket No. CP76-43, has petitioned the FPC to construct and operate one interconnection.

1. Berlin Township, Bureau County, Illinois

Natural Gas Pipe Line Company of America, in Docket No. CP76-44, has petitioned the FPC to construct and operate one interconnection and one alternate interconnection.

1. Section 14, T30N, R10E, Kankakee County, Illinois.
2. Alternate - Northeast of LaSalle, Section 25, T34N, R1E, LaSalle County, Illinois.

Northern Natural Gas Company, in Docket No. CP76-45, has petitioned the FPC to construct and operate three interconnections and one emergency interconnection.

1. Section 6, T121N, R62W, Brown County, Aberdeen, South Dakota.
2. Section 5, T102N, R31W, Martin County, Welcome, Minnesota.
3. Section 23, T96N, R23W, Hancock County, Ventura, Iowa.
4. Section 28, T88N, R10W, Buchanan County, Waterloo, Iowa (Emergency).

Panhandle Eastern Pipe Line Company, in Docket No. CP76-54, has petitioned the FPC to construct and operate one interconnection.

1. Section 17, T26N, R12E, Wells County, Indiana.

Texas Eastern Transmission Corporation, in Docket No. CP76-48, has petitioned the FPC to construct and operate one interconnection.

1. South of Delmont, Salem Township, Westmoreland County, Pennsylvania.

g) Comments of Fact

The Wapsipinicon River is not classified as a Recreation River under the Federal Wild and Scenic River Act, nor was it selected as one of the rivers to be studied by the act, as stated on page V-662 and in other locations in Part V. This river area was selected by the Secretaries of Interior and Agriculture in accordance with the requirements in Section 5(d) of the Wild and Scenic Rivers Act because it has natural values worthy of preservation.

Where the proposed route passes near Blackball Mine in Indiana, as discussed on page V-1090, no mention is made of the fact that the mine, which contains five species of bats, including the endangered Indiana bat (Myotis sodalis), is old, in disrepair, and only 1,000 feet from the proposed pipeline route. In addition, bedrock in this area, which is at or near the surface, will require blasting in order to achieve the desired burial depth. This blasting could not only cause cave-ins within the mine, but if occurring between mid-October to March, would disturb the hibernating bats so that their fat reserves would be depleted. Repeated disturbances may cause death to many individuals.

Part VI Alternatives

a) On page VI-64, the statement,"Interstate gas sells considerably in excess of $1.00/Mcf." is in error. Intrastate gas does in most instances sell in excess of $1.00/Mcf.

b) Pages VI-522 and 526, the figure 4,000 billion cubic feet of gas should be either 4,000 million or 4 billion cubic feet of gas.

c) An alternative to the fully developed Arctic Gas project exists which the staff believes should have been considered by Department of the Interior. Preliminary FPC staff investigations indicate that it is entirely possible that the new facilities required by the Arctic Gas all-land proposal need not extend beyond the Chicago area in the east, and that the two major laterals to the California market areas are not needed in the west. It appears that various combinations of displacement, reverse flow and modest additions of new facilities could be utilized to deliver North Slope Alaskan Gas to all major lower 48 market areas through existing natural gas transmission facilities. The environmental consequences of this substantially reduced Arctic Gas project should be considered in the Department of the Interior'.s Final EIS.

General Comment

Within Part VI of the DEIS is a descriptión of a proposed pipeline-LNG tanker alternative to the Alaskan Arctic proposal similar to that currently proposed before the Commission by the El Paso Alaska Company (El Paso Alaska) in Docket No. CP75-83-1. The FPC staff is preparing an environmental and socioeconomic analysis of the El Paso Alaska and Western proposal with alternatives which will appear in its DEIS for the Docket No. CP75-96 et al. proceeding. Copies of this DEIS will be provided to the Department of the Interior. As a general matter, it will be much more specific than the analysis continued in Part VI for a somewhat similar route since an actual proposal is before the Commission. The FPC staff DEIS will also contain supplemental socioeconomic analysis to Interior's presentation.

Sincerely,

JMHeinemann

Jack M. Heinemann
Acting Assistant Director
for Environmental Quality

Canadian Embassy Ambassade du Canada

1746 Massachusetts Ave., NW
Washington, D.C. 20036

October 31, 1975

Mr. William W. Lyons
Deputy Under Secretary
Dept. of the Interior
Room 6116
18th & 'C' Street
WASHINGTON, D.C. 20240

Dear Mr. Lyons:

I am sending to you a collection of comments on Part III of the Department of the Interior's Draft Environmental Impact Statement dealing with Alaskan gas transportation. The comments, which refer specifically to socio-economic content, were provided to us by the Department of Indian and Northern Affairs. Copies of the Environmental Impact Statement were also forwarded to Environment Canada in Ottawa. It is our understanding that this Department will be preparing additional remarks on the environmental aspects of the statement.

Officials of the Dept. of Indian and Northern Affairs note that extensive use has been made of documents supporting the Canadian Arctic Gas Pipeline Limited application to the various Canadian regulatory agencies. They query the rationale behind using this relatively narrow data base for impact assessments.

As has been the case in the past, we would like to attach the proviso to the enclosed comments that they should not be interpreted as an endorsement of the EIS by the federal government.

Yours truly,

B. Watson
First Secretary

Indian and Northern Affairs Affaires indiennes et du Nord

OTTAWA, Ontario K1A 0H4

October 22, 1975.

Mr. Bruce Watson,
Canadian Embassy,
1746 Massachusetts Avenue N.W.,
Washington, D.C.
U.S.A. 20036

Dear Mr. Watson:

-- I am forwarding a number of comments on Part III of the Draft Environmental Impact Statement by the United States Department of the Interior.

The comments relate specifically to socio-economic content. Copies of the Environmental Impact Statement were provided to Environment Canada. My understanding is that Department will be commenting on the environmental content.

As a general comment, we note extensive use has been made of documents supporting the Canadian Arctic Gas Pipeline Ltd. application to the Department of Indian and Northern Affairs and the National Energy Board. We query the rationale in using such a narrow data base for impact assessments.

This letter and the attached comments should in no way be construed as an endorsement of the environmental impact statement.

Yours sincerely,

Encl.

A.B. Yates,
Director,
Northern Program and
Policy Planning Branch.

Comments on Part III, Canada,
Draft Environment Impact
Statement on Alaskan Natural
Gas Transportation System

Page 624	In the last paragraph on page 624, it is stated that "a basic handicap to activities of the Territorial Governments, however, is the lack of an adequate revenue base within their jurisdiction". This is also stated on page 645. Whether or not this is a "basic handicap" is a matter of opinion which is not well substantiated in this section of the paper. In the preceding paragraph the legislative powers of the Territorial Governments are said to be similar to provincial legislatures. It would perhaps be more informative if this discussion were broadened to include the responsibilities of the Territorial Governments for money bills and, in the subsequent discussion on revenue sources, mention should be made of grants in-lieu-of corporate and personal income taxes and the operating and capital grant structure.
Page 631	On page 631, it is stated that natural gas reserves are present, but production is not known. Published sources (Oil and Gas Activities 1974, DIAND) provide production figures for natural gas for the NWT and Yukon as follows: Pointed Mountain, NWT - 87.7MMCFD; Beaver River, Yukon - 3.1 MMCFD.
Page 631	Alberta contains most of Canada's proven fossil fuels; however, other areas have significant potential. Alberta is the major Canadian producer of oil, gas and elemental sulphur but there is no significant metal production in the province.
Page 635	Paragraph two seems to be misleading. In fact, most major exports from Alberta are relatively unprocessed e.g. coal to Japan, and the Alberta government is attempting to increase the processing of natural resources in Alberta. This policy has significant implications for other users of these resources in Canada.

Pages 635 to 637	Statistics on the Working Age Population - 15 to 65. This is a statistical tool only and must be regarded as such. The legal school leaving age in the Territories is 16 years and most young people remain the the school until 17 to 18 years of age. Most native people who are 60 years or over should not be considered as part of the labour force.
Page 635	It is stated that unemployment and under-employment are generally acknowledged to be high in the NWT. From 1971 Census data, we know that unemployment among native peoples is high, but more importantly, the participation rate among native people is extremely low. The generalization contained in the paper should be amended to more accurately reflect the true situation.
Page 636	Persons who are unemployed and seeking work, or registered with Canada Manpower as looking for work produce Canadian unemployment statistics. In the Territories such statistics are not available as sufficient Manpower offices have not been established to serve all the communities. Manpower Centres are located at Yellowknife, Hay River, Fort Simpson, Inuvik and Whitehorse.
Page 637	Comment that mining produces little employment is not correct. The table referred to indicates that mining is the third largest employer after government and other contracting.
Page 637	The generalization that "absenteeism and alcoholism" are the major problems in hiring northern personnel is not acceptable without research data to back it up.
Page 638	The 1972-73 survey indated the native work force available was about 1,200 - subject to a number of factors.
Page 642	As neither survey has complete coverage of the study region, the per capita income derived from either survey is questionable.

Page 649	On page 649, reference is made to the dramatic comparisons that can be made among Northwest Territories government annual expenditures during the period 59-60 to 71-72. The comparisons may be dramatic, but should be explained by virtue of transfer of responsibilities to the Territorial Government during this time.
Page 654	With reference to paragraph two, if the pipeline is not built, it seems very unlikely that current levels of oil and gas development would continue until 1985. This could also cause declines in other areas of the northern economy which are dependent upon oil and gas activities. This fact seems to be acknowledged later in the report e.g. on page III-688, III-1406, III-1762 and others.
Page 654	People in the Territories are not forced to hunt and fish to "avoid starvation". There are good social assistance programs administered by Territorial Governments to meet the basic needs.
Page 657	It would be more appropriate to use Kutchin instead of Loucheux as the form "Kutchin Indians" is known to the population of the United States.
Page 660	b) The exact number is not know, but it is doubtful if the Métis Association of NWT represents 7,000 people. There may be about 5,000 people of mixed ethnic parentage in that Territory. d) The exact number is not known but it is doubtful if Yukon Association of Non-Status Indians in the Yukon Territory represents 3,500 to 5,000 people of mixed blood. There may be about 1,500 people of mixed ethnic parentage in that Territory.
Page 675	Natives prefer to live and work in their home communities. They will, however, rotate to employment as this is the only work available for many of them.

Page 676	Very general comment in paragraph two on Alberta housing; seems to suggest that housing conditions in Alberta as far south as Calgary are the same as those in the Northwest Territories. They are not. Highly sophisticated housing pertains in settled areas in the provinces.
Page 678	Reference has been made on page 678 to a "Vocational and Technical Training Department" in the Yukon Territory. No such department exists. The correct terminology should be "Vocational and Technical Training Branch of the Department of Education."
Page 678	Canada Manpower has Manpower Centres in both Territories to administer training programs.
Page 678	Some hostels in the Territories are operated by church groups under contract to the Territorial Government. Hostels are not, however, sponsored by churches .
Page 679	All educational or training programs available in the Provinces are also available to residents of the N.W.T.
Page 679	By 1975 the Applicant had only made available 105 training positions. Not all of these positions have been filled.
Page 680	The word "provisional" should read provincial.
Page 683	Several features unique to the northern territories are described. Among these, it is stated that the form of government and administration is unique and is now undergoing rapid change. The type of change is not explained.
Page 694	Local involvement and local government are the outgrowth of an intensive community development program that was introduced in the Territories as early as 1958. All senior staff posted to native communities between 1958 and 1968 were trained to varying degrees in the community development approach.
Page 698	"Average age of death" is a misleading statistic. Life expectancy is more meaningful, but unfortunately, more recent statistics are not available.

Page 699	It is stated that "It appears that existing mechanisms for off-setting the anticipated increase in (alcohol) abuse are totally inadequate". No discussion of these mechanisms, nor why they are inadequate, is provided.
Page 700	Statistics appearing on page 700 tend to give the impression that the North is a high-crime area. This distorted picture is attributable to the limitations attached to the data used in the Report. Rates appearing in the Crime Statistics tables published by Statistics Canada are based on 100,000 of the estimated total population and this process produces rates which are statistically unreliable for very small populations like Yukon and Northwest Territories. Secondly, the crime rates are based on the number of cases reported to the police and do not reflect the actual number of cases for which charges were levied.
Page 701	All people, not just natives, develop more complex desires and needs as their standard of living improves.
Page 1041	As there never has been any source material indicated to support the data in this table, they remain questionable.
Page 1042	Reference to 1975 pipeline start in paragraph 1 and in some subsequent sections is obviously unrealistic.
Page 1043	Dates given for the completion of Dempster and Mackenzie Highways are no longer correct. The recent program established for the Mackenzie Highway is completion to Wrigley by 1978 with no plans for construction north from Wrigley. The Dempster could be completed by 1978 if sufficient funds are made available but no target date has been announced for completion.
Page 1046	With the recent cut back in funds for the Mackenzie Highway, the statistics presented in this table are no longer correct.
Page 1058	The figures on cash benefits to Natives should be treated with extreme caustion.

Pages 1061-1070	The two Territories receive Grants-in-lieu of personal and corporate income taxes which are collected by the federal government on their behalf. This fact should be noted as appropriate on these pages.
Page 1073	On page 1073, it is stated that funds available to governments from increased revenues if the pipeline were completed would be available for use within the region to develop the services and facilities for which the governmental units are responsible. There is no basis in fact for this statement as far as I am aware.
Page 1076	Natives prefer to remain in their home communities - they rotate to job opportunities by necessity.
Page 1274	With reference to paragraph one, availability of natural gas may encourage mineral production to a greater extent than indicated here. Trends in the mineral industry are to increase the amount of processing at the mine site if energy is readily available particularly if used in processing e.g. natural gas for the direct reduction of iron ore.
Page 1274	Paragraph three suggests that little of the benefits of cheap energy will accrue to northerners. However, it should be emphasized that a Canadian government objective will be to ensure that the maximum benefits possible from the development of the pipeline will be received by northerners.
Page 1421	Population of non-registered Indians The figure of 3,500 to 5,000 non-registered Indians on page 660 and the figure of 3,000 Métis on page 1,472 are open to question. No reliable estimates are available on the population of non-status Indians in the Yukon. Yukon Territorial Government officials believe that the figure (which includes Métis) is around 1,600 (± 5%) for the year 1971.

	Age 15-64	Age 65	Total
Male	5,540	100	5,640
Female	2,570	40	2,610
Total	8,110	140	8,250

Pages 1472-1614 Local Government and Band Chiefs

It should be indicated clearly on pages 1472 and 1614 that the comments relating to local government and the role of band chief apply only to Indian communities.

Page 1614 Population of Whitehorse -- 1953 and 1971

Part of the increase in the population of Whitehorse, referred to on page 1614, is attributable to a change in the boundaries of the City of Whitehorse.

Page 1820 The economic impact of the construction phase of CAGPL line in southern Canada, mainly Alberta, could be quite significant depending upon economic conditions in the area at the time.

Page 624 Bottom of the page. The sentence reads: "Northwest Territory revenue sources are: license fees from the private business sector in a region of largely government business; fuel tax in a land of few vehicles and gasoline costing more than $1.00 per gallon; liquor tax; tobacco tax; and general sales tax." It should read: "Northwest Territories revenue sources are: license fees from the private business sector in a region of largely government business; fuel tax in a land of few vehicles and gasoline costing in some communities more than $1.00 per gallon; liquor tax; and tobacco tax." Actually, there is no general sales tax in the Northwest Territories.

Page 629 Last paragraph. The first sentence reads: "Service industries employ 75 percent of the labour force of 13,549 in the Northwest Territories (Table 2.1.2.9-1)." It should read: "In 1972, service industry activities provided employment for 75 percent of the estimated total 6,343 man-years of employment in the study-region (Table 2.1.2.9-1)."

Page 644 Table 2.1.2.9.4. Study region personal income from all sources, 1970. The estimated personal income figure for Fort Providence reads as $152,434. It should be shown as $152,484.

Page 668 Item a. The last part of the sentence reads: "...Kakisa Lake, Lac Lamarre, Enterprise." It should read: "...Kakisa Lake, Fort Liard, Enterprise."

Item b. The last sentence reads: "There are eight settlements within the study portion... Fort Norman, Fort Liard, Old Crow, Wrigley." It should read: "There are seven settlements within the study portion... Fort Norman, Lac la Martre, Wrigley."

Page 1074 Table 3.1.2.10-1. The title of the table does not reflect an accurate description of the content of the table. It reads: Projected population by sub-region, 1975-1985: without the pipeline. It should actually read: Total and male working age population in the study region, 1971 and 1981.

Page 1078 Table 3.1.2.10-2. Here again the description of the content of the table should be changed. It reads: Projected total and male working age population in the study region, 1975-1985: without the pipeline. It should read: Projection of population and new housing requirements, by sub-region, 1971-1983.

Page 1255 First paragraph. The last part of this paragraph is rather unclear. It reads: "... should have an overall beneficial effect. An adverse impact could be imposed on this income if a large percentage of it were lost to the local economy through income leakage due to direct purchasing of goods from outside of the region." This part of the paragraph might be reworded to read something like: "... should have an overall beneficial effect on the local economy. An adverse impact could be imposed on the local economy if a large percentage of the income were lost to it through income leakage due to direct purchasing of goods and services from outside of the region".

STATE OF ILLINOIS

DEPARTMENT OF CONSERVATION
605 STATE OFFICE BUILDING
400 SOUTH SPRING ST.
SPRINGFIELD 62706

ANTHONY T. DEAN
DIRECTOR

HAROLD L. ELLSWORTH
ASSISTANT DIRECTOR

CHICAGO OFFICE—ROOM 100, 160 N. LA SALLE ST., 60601

October 27, 1975

Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D.C. 20240

Dear Sir:

The Illinois Department of Conservation has reviewed the Draft Environmental Impact Statement made available to us regarding the proposed Alaska Natural Gas Transportation System and has determined that there are some apparent conflicts between the project as described and the programs and policies of this Department.

There appears to be a general surplus of descriptive text regarding intended activities while there is a general lack of data indicating what the potential environmental consequences of those activities will be. For example it is not enough to indicate that the pipeline will pass through a marshland and thus eliminate the habitat and its listed fish and wildlife residents. The Environmental Statement should indicate what the consequences of such physical impacts are on the total environment, whether its significance is local, regional, statewide or national.

The following major comments address the Draft Environmental Impact Statement in relation to the project's potential adverse impacts on Department properties. The attachment comments on the scope of the Environmental Statement, refer to the volumes in consecutive order.

1. The Department of Conservation will oppose the prime route alignment through Big Bend Conservation Area in Whiteside County, Illinois until such time as a detailed study of the exact alignment with proposals for mitigation can be presented to the Department which would indicate no significant impact or acceptable mitigation. The present purpose of this area is to reserve land and water area for optimum production and conservation of fish and wildlife, and to provide hunting, fishing, trapping, observation and other forms of recreational use for which this pipeline would appear non-compatible.

2. The Department of Conservation will require close coordination concerning the location and construction of the proposed pipeline at the points where it would cross the Illinois-Mississippi Feeder Canal and the Illinois-Michigan Canal. Both canals are designated as state parkways and at this time the Illinois-Michigan Canal is on the National Register of Historic Places. Crossing these canals may require jacking, boring or tunneling.

3. The Department of Conservation will oppose the prime route alignment in the area of the Illinois River crossing. As indicated in the Draft Environmental Impact Statement, "The crossing of the Illinois River (on the prime route) in LaSalle County, Illinois will result in severe impact on wildlife, archeological and historical sites, recreation areas and on the region's aesthetic values consisting of a closed canopy hardwood forest and a steep river bluff with rock outcrops."

The prime route immediately north of the Illinois River would potentially cross through the Pecumsaugan Creek natural area consisting of upland and ravine forests, bluffs, and river bottomland. The natural values of the bottomland are wet woods and marsh providing valuable waterfowl and wildlife habitat. The upland, including Pecumsaugan Creek, Spring Dell, Blackball Mine, and the adjacent bluffs are of nature preserve quality, based on diversity of habitats, naturalness and lack of disturbance, rare fauna and flora, and unique geologic features.

Blackball Mine, an abandoned quarry, has the largest colony of hibernating bats in Illinois, and is of considerable regional value to scientists and educators because of its northern location. Five species of bats, including the endangered Indiana Bat (Myotis sodalis) use the mine.

The prime route immediately south of the Illinois River would cross through the recently dedicated portion of the Starved Rock State Park Nature Preserve consisting of a south bluff of the Illinois River Valley, where the river has cut through a thick stratum of St. Peter sandstone which outcrops to form sheer cliffs and box canyons. The vegetation includes upland forest, river bottom forests, sand prairie and flora associated with river bottom ponds.

Illinois nature preserves are given statutory protection under a 1963 Illinois law which declares such tracts as put to their highest public use and prevents their future alteration. The affected nature preserve is within the boundary of Starved Rock State Park which is also listed on the National Register of Historic Sites.

4. Immediately south of Starved Rock State Park is Matthiessen State Park which is also impacted by the prime route. At Matthiessen State Park both the St. Peter sandstone and the overlying Platteville limestone, formations which in most of Illinois occur at considerable depth, are brought to the surface along the great upfold known as the LaSalle anticline. It is in these formations that the principal canyon, a beautiful gorge nearly 200 feet deep and 50 to 150 feet wide, has been mainly eroded as part of the Vermilion River Valley.

These old formations are overlain by much younger formations, consisting of beds of sandstone, shale, clay, coal and limestone belonging to the Pennsylvanian or "Coal Measures" system. They underlie all the upland areas in the park and are exposed along the top of the canyon walls at several places, especially in the vicinity of Arch Bridge.

The flora of Matthiessen State Park is most interesting because of the unusual preservation of what was once common to Illinois.

Most of the geological, plant and wildlife resources of the park would not tolerate the impact of the pipeline.

5. In view of the fact that "the precise location of the gas pipeline cannot be determined until the level of engineering is advanced, and in some cases until the location is actually determined on the ground," this Department requests to be kept closely informed so we might comment on the alignment selection as it may affect recreation, fish, forestry and wildlife on other public or private lands.

If this Department can be of any additional service please feel free to call on me.

Respectfully,

Anthony T. Dean

Anthony T. Dean

ATD:mjk
Attachment

PART I OVERVIEW VOLUME 1 of 1

Page I-2, Paragraph 1

If the volume of gas available cannot be determined "at this time"; how were the sizes of the pipeline determined? How accurate can the "estimate" be expected to be?

Page I-2, Paragraph 2

Couldn't all the gas be reinjected into the pool for storage until all necessary parameters for piping are worked out?

Page I-3, Paragraph 2

We can understand why construction will be delayed until federal permits, authorizations, and approvals are received. However, we question allowing any construction to be initiated until all other state and local permits, authorizations and approvals are also received for the respective section.

Page I-3, 4; Paragraph 3

How can reviewer be expected to comment with any accuracy if alignment adjustments "of up to several miles on either side of the route discussed in this Environmental Impact Statement" are allowed.

Page I-5, Paragraph 1

No contact in respect to necessary authorizations, certificates and permits has been made with this agency to date. At what time may we expect coordination?

Page I-6

"Daily volume to be transported." How were these figures determined? How accurate can these "estimates" be expected to be?

Page I-71, Paragraph 1

How will excavated materials from stream be disposed of? We recommend that material removed from the bottom of the stream during the laying of the pipeline be deposited in a suitable landfill or contained behind suitable dikework and not returned to the stream or its banks.

Page I-67, Paragraph 1

How will cleared vegetation be disposed of? We recommend that all marketable timber be sold off in advance with remaining woody material being chipped for use as mulch during the restoration.

Page I-78, Paragraph 1

After the pipeline is laid in the streams we recommend that the back-fill be gravel or larger aggregate.

Page I-78, Paragraph 2

In addition some waste materials may be chipped and used for mulch during restoration.

Page I-78, Paragraph 3

This statement contradicts the statement on Page I-59, Paragraph 2 which states no winter construction is being contemplated.

When re-vegetation and restoration is carried over until the following spring some adequate temporary or artificial cover must be implemented to control erosion.

Page I-86, Paragraph 3

Department of Conservation field staff should be contacted to accompany inspection teams as they see fit.

Page I-89, Paragraph 1

Restoration guidelines should be set in the case of pipeline excavation following abandonment.

Page I-90, Paragraph 2

This Department assumes that any future expansion not covered by this EIS will be preceded by its own EIS.

Page I-144, Paragraph 2

Extreme slopes traversed in the vicinity of the Illinois and Pecumsaugan River crossing will be avoided by selection of the "Route Deviation." (Pecumsaugan Creek misspelled in EIS.)

Page I-258

We assume the final EIS will address "Historic Land Uses" as outlined.

Page I-302

We assume the final EIS will address "Land Use Planning" as outlined.

Page I-336

Last sentence reference to Nature Preserves: Illinois Nature Preserves are given statutory protection under a 1963 Illinois law which declares such tracts as put to their highest public use and prevent their further alteration for any use.

Page I-337, Paragraph 2

The Illinois-Mississippi Canal is a designated state parkway and is on the National Register of Historic Places.

Page I-410, Paragraph 3

There is a definite need for more than a basic address of environmental concerns.

Page I-416, Paragraph 1

The mitigating measures of the applicant must be clearly defined with the Department of Interior requiring, not just assuming, that they be implemented. Please explain the difference between mitigation measures "only suggested" and those "assumed". We recommend the EIS cover those mitigation measures which will be implemented, not "only suggested". Close coordination with Illinois Department of Conservation should be required in regard to all mitigation measures in Illinois.

Page I-417, Paragraph 1

There appears to be a need for some requirements as to what the applicant will do, rather than assuming he will do, as he indicates, subject to its effectiveness.

Page 422, Paragraph 3

All pesticides and herbicides should be used only on spot problems and should be non-persistant or bio-degradable.

Page I-426, Paragraph 1

A sign-off letter from each state's Historic Preservation Office is required. In Illinois, the Director of the Department of Conservation.

Page I-426, Paragraph 2

A sign-off letter from each state's Archeological Survey is required.

Page I-426, Paragraph 3

A sign-off letter from each state's Nature Preserves Office is required. In Illinois, the Nature Preserve Commission.

Page I-427, Paragraph 1

A sign-off letter from each public recreation agency affected is required.

Page I-431, Paragraph 1

We assume there are erosion control requirements covering the "exceptions" where re-vegetation is not an acceptable erosion control method.

Page I-431, Paragraph 2

We assume that a complete discussion of the items "not discussed adequately in contingency plans to mitigate impacts on aquatic life" will be included in the final EIS complete with necessary plan revisions to allow for an acceptable limit of impact. This must be completed before the EIS can be accepted.

Page I-432, Paragraph 1

We assume that the many other effects on wildlife which were noted as not being discussed in the Draft will be adequately discussed in the final EIS complete with necessary plan revisions to allow for an acceptable limit of impact. This must be completed before the EIS can be accepted.

Page I-435, Paragraph 2

In Illinois the most difficult problem in re-vegetation will be in areas of shallow topsoil that has been disturbed by the clearing of existing woody vegetation. By chipping the woody material removed from the right-of-way and using it for mulch, a better seed bed may be prepared along with some protection given from erosion until the seeding is well established. Problems of re-vegetation may be decreased by reducing the right-of-way clearing to the absolute minimum in problem areas.

Page I-436/446

This Department assumes that all the numerous studies indicated within the ten-page section on wildlife will be done or indicated as "not effective" in the final EIS.

Page I-446, Paragraph 2

This Department assumes that there will not be a maintained access road along the pipeline following restoration of the right-of-way except at locations of existing roads and as required to reach compressor stations or other pipeline facilities.

Page I-446, Paragraph 3

This Department would discourage general fencing of the right-of-way in locations where it may restrict natural wildlife movements.

Page I-449

In Illinois the best of these unique areas are dedicated as Nature Preserves by the Illinois Nature Preserves Commission and protected from alteration by Illinois Law.

Page I-452

Matthiessen State Park's name was misspelled and Salamonie State Recreation Area is not in Illinois.

Page I-456

Open burning can be reduced if the woody plant materials not marketed for timber are chipped and used for mulch.

Particulate emissions from open burning can be reduced with the use of an air curtain destructor.

Page I-471, Paragraph 2

It is the opinion of this Department that wildlife cannot be successfully relocated to any area already inhabitated to its carrying capacity by individuals of the same species. In areas of scarce habitat, relocation will most likely be unsuccessful unless new habitat is established.

Page I-475, Paragraph 1

Resource-based recreation activities can only take place where nature placed the resource and such activities cannot be directed to other recreation areas unless it has the identical resource base.

Page 521

The dedication of Illinois Nature Preserves declares that such tracts are in that way put to their highest and best public use and so protected by law. Likewise, having a cultural/historical site put on the National Register would indicate that the site is of such significance that it deserves national acclaim and protection. Avoidance of these areas should be required.

Page 535

The habitat of the endangered Indiana Bat in Illinois may be avoided by route deviation addressed by the Draft Environmental Impact Statement.

Page 1-557 Alternative Routes

Why hasn't an alignment been studied in conjunction with the Dome Pipeline through Illinois? The Dome Pipeline generally follows the same gross corridor through the state. Utilization of a joint corridor would seem both more environmentally and economically sound.

PART II ALASKA (3 Volumes)

No Comments.

PART III CANADA (3 Volumes)

This Department assumes that Canadian requirements for reporting on the potential environmental impact of the project are being met.

PART IV WEST COAST (4 Volumes)

No Comments.

PART V NORTHERN BORDER VOLUME 1

Page 058, Paragraph 2

In all areas the Department of Conservation requests that the cleared right-of-way be kept to a minimum to prevent wildlife habitat loss.

If a 40-foot minimal right-of-way is maintained after construction along a 100-foot working right-of-way, we assume a 60-foot (probably 30 feet on each side of the 40-foot strip) strip will revert to the land owner. Explain or correct the 46-foot figure stated in the EIS. Should the 40-foot figure really be 54 feet as indicated on Page 060?

Page 060, Paragraph 1

This Department requests that the working space at the river crossings be located as far back from the shoreland as possible.

Page 061, Paragraph 4

Again, consideration of jointly using the Dome Pipeline alignment which is now in advanced planning would appear to be an environmental and economic benefit.

Page 068-071, Phase 1

No construction can begin in Illinois until all the required state and local permits, authorizations and approvals are received. To date, this Department has not been contacted for authorization to cross Department of Conservation lands.

Page 073, Paragraph 4

How long in weeks or months is ..."prior to actual construction..." "longer lead times?" We would like at least a rough estimate of what kind of lead time is being contemplated.

Page 074, Paragraph 1

How long will the average open-cut road crossing disrupt traffic?

Page 076, Paragraph 3

How far in advance of installation will the trench be excavated?

Page 077, Paragraph 2

In case of detected leak, how is it repaired? By excavation or from the interior? Is there a limit to the size of leak which can be detected? We assume "adequacy of the pipeline" is at 100%. If not, what is adequate?

Page 077, Paragraph 3

It would seem that if the entire alignment can avoid all houses, industrial and commercial buildings it should be expected to miss designated state parks, conservation areas, nature preserves, etc.

Page 077, Paragraph 4

By what method will the access roads cross streams? By bridges, fords or detours?

Page 078, 1st Sentence

Does this reference to "existing borrow sites" mean borrow areas in existence before initiation of the pipeline project. If not, what borrow area guidelines will the contractor be required to follow? If the project requires the development of new borrow sites they should be specifically covered by the final EIS. Leaving the acquisition of borrow material up to the contractor does not negate the environment impact of borrow areas required by the project.

Page 078, Paragraph 3

In all areas the Department of Conservation requests that cleared rights-of-way be kept to a minimum to prevent wildlife habitat loss. In some cases less than 100-foot rights-of-way would be recommended to avoid excessive clearing of timber or disturbance of geological features.

Page 079, Paragraph 3 & 4

Is restoration of slope cuts contemplated?

Page 080, Paragraph 6

We assume gaps will be left to permit the passage of wildlife as well.

Page 081

Where and how is testing? Above or below ground?

Page 082

The figure of 33 feet for storage of excavated material conflicts with the 25-foot figure given on Page 078, Paragraph 3.

Page 083, Paragraph 1

This Department requests that the stockpile of pipe at the river crossing be located as far back from the shoreland as possible.

Page 083, Paragraph 2

If any pipeline crosses Department of Conservation lands we request at least a 3-foot coverage.

Page 084, Paragraph 3

Department of Transportation, Division of Water Resources permits will be required at stream crossing.

Page 085, Paragraph 1

The material used for pipe coating must be hardened and non-toxic when lowered into stream crossings.

Page 086, Backfilling

Only clean pollutant-free material should be used for backfill. We recommend that material excavated from the bottom of the stream be deposited in a suitable landfill or contained behind suitable dikework and not returned to the stream, its banks or used for backfill. After the pipeline is laid in the streams we recommend that the backfill be gravel or larger aggregate.

Page 087, Paragraph 2

We assume disposal will be made in state approved landfills.

Page 087, Paragraph 3

What method of maintenance will be used to curb tree growth within right-of-way? We would recommend manual or mechanical rather than herbicides.

Page 088, Paragraph 1

Borrow pits should be covered by EIS and specific minimum guidelines to guard against adverse environmental impacts.

If re-vegetation must be delayed some adequate temporary or artificial cover must be implemented to control erosion.

Page 088, Paragraph 4

The (a) subheading should also include canals. The Illinois-Mississippi Feeder Canal and the Illinois-Michigan Canal contain clay, watertight linings which should not be disturbed.

Page 092, Paragraph 1

We again recommend that material excavated from the bottom of the stream be deposited in a suitable landfill or contained behind dikework and not returned to the stream, its banks or used for backfill. After the pipeline is laid in the stream trench we recommend that the backfill be gravel or larger aggregate with a minimum depth of three feet between the bottom of the stream and the top of the pipe in smaller stream and four to five feet in larger streams and rivers.

Page 108, Paragraph 1

Hydrostatic test water should not be discharged into surface water courses in Illinois unless they can meet State Environmental Protection Agency effluent discharge guidelines. No discharges will be allowed into the Illinois-Missipi Feeder Canal or the Illinois-Michigan Canal.

Page 126, Paragraph 4

We recommend manual or mechanical vegetation removal rather than the use of herbicides.

Page 131

Is the removal of the pipeline upon abandonment to be a requirement?

Page 134, Paragraph 1

No proposed construction activity can take place on Department of Conservation lands prior to authorization.

Page 139

Illinois Department of Conservation does have approval requirements for use or occupancy of Department of Conservation lands. We also have a flat rate charge for utilities crossing the state parkways (canals).

PART V VOLUME 2

Page 534, Paragraph 4

The Kankakee River in Indiana also drains into the Illinois River.

Page 631, Paragraph 1

Because of the extensive land development practices in Illinois, the remaining "natural resources" such as those now protected as nature preserves, parks, conservation areas, etc., are even more significant and should be protected.

Page 640, Paragraph 3 (also Page 686, Paragraph 1)

This Department recommends that natural plant and animal communities in the Pecumsaugan Creek and Illinois River Bluff area be avoided by utilizing the route deviation.

Page 689, Figure 2.1.3.7-5

The mottled sculpin should be added to the list of fish species of state concern for Illinois and several others on the list should indicate Illinois concern as well. Those are: pallid sturgeon, blackchin shiner, pirate perch and paddlefish.

Page 704, Economic Factor

A section is needed on the economic factor of outdoor recreation activities such as hunting, fishing, nature study, etc.

Page 808, Paragraph 2

Due to the high urban population of Illinois, the demand for public recreation land is most critical with most quality areas experiencing overuse.

Page 810, Paragraph 1

We do not consider "trap shoot areas" as a typical local recreation area any more than fishing ponds, racetracks or other commercial outdoor recreation facilities. We assume the majority of municipal parks have a larger land use than most "trap shoot areas". Private conservation or fish and game clubs normally have large land areas but should not be considered as "town parks".

Page 875, Paragraph 4

The Dome Pipeline proposed to cross Illinois runs nearly parallel to this proposed route. Why weren't they considered for joint corridor use?

Page 827, Figure 2.1.3.11-11

The proposed Dome Pipeline should be shown.

Page 858, Paragraph 1

A major site, Starved Rock in Starved Rock State Park is adjacent to the proposed prime route.

Page 870, Paragraph 4

No mention was made of the Illinois-Michigan or Illinois-Mississippi Canals.

Page 872, Paragraph 4

Even though the exact location is not known, we assume the pipeline will be crossing the historic Illinois-Mississippi Feeder Canal in Whiteside County.

Page 878, Figure 2.1.3.13-1

Camping and trails should be added to primary facilities list for Starved Rock State Park.

Trails should be added to the primary facilities list for Matthiessen State Park.

Page 879, Figure 2.1.3.13-2

The Illinois-Michigan Canal State Parkway is so designated by statute.

Page 881, Paragraph 3

This "gap" has been dedicated as a nature preserve. Illinois Nature Preserves are given statutory protection to prevent their future alteration.

Page 886, Paragraph 5

With the previously noted error in status for the Illinois-Michigan Canal it appears that 7 of the 12 sites (over half) are designed, not only a "few". Where is the data which indicates ("the reader will quickly observe...") "that few are actually existing areas which are meeting recreational need of their region." The canoe route and both canals in Illinois are available for use.

PART V VOLUME 3

Page 972, Paragraph 4

The area of soil stabilization problems might be avoided by selection of the route deviation at the Illinois River Crossing.

Page 973, Paragraph 2

Blasting of limestone in Pecumsaugan Creek area will most assuredly jeopardize the Indiana Bat colony in the local quarry caves.

Page 978, Paragraph 2

Is there to be a restriction as to the total number of acres which may be bare ground at any one time as in some highway projects?

Page 1030

This woodland would be avoided by selection of the route deviation at the Illinois River Crossing.

Page 1054 SUMMARY

The potential losses are noted for a number of vegetation types. However, the consequences of the losses on the local regional or statewide environment is not adequately covered.

Page 1055, Paragraph 4

These unique plant communities would be avoided by selection of the route deviation at the Illinois River Crossing.

Page 1057, Paragraph 4

Topsoil replacement is requested if any pipe is laid on the Department of Conservation lands.

Page 1062, Paragraph 1

Since wildlife species are motile, the extent of potential impact reaches far beyond the 100-foot right-of-way and should be addressed in light of this fact.

Page 1089, Paragraph 2

The woodland immediately east of the Illinois River has been dedicated as nature preserve. Illinois nature preserves are given statutory protection to prevent their future alteration.

All this are would be avoided by selection of the Illinois River route deviation.

Page 1090

Both the Pecumsaugan Creek area and Big Bend Conservation Area can be avoided by selection of proposed route deviations.

Page 1107, Paragraph 1

The need for blasting may be avoided by selection of the Illinois River route deviation.

Page 1110, Paragraph 2

We recommend manual or mechanical vegetation removal, following the nesting season, rather than the use of herbicides.

Page 1112, Ecological Considerations

The potential losses are noted for a number of representative species. However, the Environmental Statement should indicate what the expected consequences of such losses will be on the total environment, whether its significance is local, regional, statewide or national.

Page 1116, Economic Factors

A section is needed on the economical factor of outdoor recreation activities such as hunting, fishing, nature study, etc.

Page 1156, Paragraph 4

Trees and brush may be chipped and used for mulch. Marketable trees should be harvested in advance of clearing of right-of-way.

Page 1186, Paragraph 2

The Illinois-Mississippi Canal also has state parkway status.

Page 1188, Figure 3.1.3.13-1

Camping and trails should be added to primary facilities list for Starved Rock State Park.

Trails should be added to the primary facilities list for Matthiessen State Park.

Salamonie State Recreation Areas was not listed on Figure 2.1.3.13-1.

Land and Water Conservation funds are currently being used for development of Starved Rock State Park. Also, this was not noted on Figure 2.1.3.13-1.

Psge 1189, Figure 3.1.3.13-2

The Illinois-Michigan Canal State Parkway is so designated by statute.

Page 1190, Paragraph 2

The "new acquisition" has been dedicated as a nature preserve. Illinois Nature Preserves are protected from future alteration by statute.

Page 1190, Paragraph 3

There is no reason to expect such a dramatic drop in visitation.

Page 1195, Paragraph 2

We would consider an Illinois River Crossing on the prime route as a "critical" river crossing.

Page 1200, Air Quality Change

This Department assumes that the more stringent regulations, whether U. S. EPA or state EPA, will be met.

Page 1232, Environmental Noise & Vibration

This Department assumes thst the more stringent regulations, whether U. S. EPA or state EPA, will be met.

Page 1243, Paragraph 4

Blasting in the Illinois River may be avoided by selecting the Illinois River Crossing route deviation.

Page 1258, Paragraph 2

In the case of the Rock River and Illinois River Crossings the Department does not feel that the selected route is "consistent with local environmental features."

Page 1258, Paragraph 3

The Department recommends the selection of a route deviation at both the Rock River and the Illinois River Crossings.

Page 1263, Paragraph 2

This Department also recommends that only minimum rights-of-way be cleared or graded in order to preserve and maintain as much of the rootstock of natural vegetation as possible. This is the only place in the EIS where we noted a deviation from the 100-foot clearing "rule".

Page 1263, Paragraph 6

We assume "gaps" will be left in stringing of pipe to allow passage of wildlife as well.

Page 1268, Paragraph 3

No discharging of testing water will be allowed in the Illinois-Mississippi or the Illinois-Michigan Canals.

Page 1270, Paragraph 1

Pipe storage and staging for stream crossings should be as far back from the shoreland as possible.

Page 1271, Paragraph 2 and Paragraph 5

The most stringent of U. S. EPA and state EPA requirements should be met.

Page 1278, Paragraph 4

This Department does not recommend the use of any herbicides except with extreme care in extreme cases.

Page 1280, Paragraph 4

We recommend that material excavated from the bottom of the streams be deposited in a suitable landfill or contained behind dikework and not returned to the stream its banks or used for backfill. After the pipeline is laid in the stream trench, we recommend that the backfill be gravel or larger sggregate with a minimum depth of three feet between the stream bottom and the top of the pipe in smaller streams and four to five feet in larger rivers.

Page 1291, Paragraph 3

Some stream bottom support may be required for stream to be forded.

Page 1303, Figure 4.1.3.3-2

This Department does have approval requirements for use or occupancy of Department of Conservation lands. We also have a charge for utilities crossing the state parkways (canals).

Page 1318, Paragraph 5

We assume that when the exact location is determined that specific measures to mitigate fish and wildlife and other environmental losses will be made. We further assume this will be reported in the final EIS.

Page 1324

No mention is made of the proposed Illinois-Mississippi Feeder Canal crossing.

Page 1324, Paragraph 4

The proposed crossing of the Illinois-Michigan Canal is also in this area.

Page 1325, Paragraph 1

Dedication of the land as nature preserve has been completed.

Page 1325, Paragraph 2

No crossing within the boundary of Starved Rock State Park or Nature Preserve would be acceptable. The route deviation completely avoiding the Park and Nature Preserve is the only acceptable alignment.

Page 1332, Paragraph 2

Land and Water Conservation funds are currently being used for development at Starved Rock State Park.

Page 1333, Paragraph 2

How about the Dome Pipeline alignment?

Page 1339, Paragraph 2

Figure 4.1.3.4-4 provides a possible solution to the Illinois River Crossing problem.

Page 1344, Paragraph 2

An air curtain destructor would reduce the particulate matter in open burning.

Page 1349

There are old quarry mines in the area of the prime route crossing of the Pecumsaugan Creek Area.

Page 1383, Last Paragraph

Impact on the Illinois River, Pecumsaugan Creek, and Rock River streamside vegetation can be mitigated by selection of the route deviation.

Page 1384, Paragraph 2

Explain the reason for a permanent 40-foot, tree-free right-of-way.

Page 1387, Paragraph 2

What are the consequencea of the potential impacts on a local regional or statewise basis?

Page 1392, Paragraph 1

Both Starved Rock State Park and Big Bend Conservation Area could be avoided by selection of the route deviations.

Page 1434, Paragraph 4

We consider the proposed impact on Starved Rock State Park as an "outstanding example".

Page 1435, Paragraph 4

The crossing of the Illinois River at the proposed prime route location would be a major environmental impact even if it wasn't a state park.

Page 1484, Alternate 3, Great Circle Route

Initial data would indicate less impact on state conservation/recreation areas. However, the location of river crossings for the Rock and Fox Rivers would still be critical. Much more data is required for consideration.

Page 1548, 42-inch Alternative System

Initially it would appear that this system would increase the adverse environmental impact.

Page 1613, Paragraph 6

During the preparation of the Draft Environmental Impact Statement, many contacts were made between individuals of this Department and Federal Department of Interior and Federal Power Commission. Some verified or logged contacts are listed below:

November 22, 1974 Phone contact between Robert K. Dodd, U.S. FWS, Princeton, Indiana, with J. Hart, Illinois Department of Conservation

November 25, 1974 Meeting with Robert K. Dodd, U.S. FWS, Princeton, Indiana, with J. Hart, T. Werner, J. Schwegman, G. Tichacek, all from Illinois Department of Conservation.

December 30, 1974 Letter to Albert K. Leonard, Bureau of Land Management, Denver, Colorado, by Director Dean, Illinois Department of Conservation.

BEAVERHEAD
Chamber of Commerce
Sportsman's Paradise

P.O. Box 830 DILLON, MONTANA 59725

November 3, 1975

Mr. Edwin Zaidlicz
Public Affairs Office
Bureau of Land Management
Box 30157
Billings, Montana 59107

Dear Mr. Zaidlicz:

The Beaverhead Chamber of Commerce wishes to express its supoort of the crossing of the Alaska oil pipeline through northeastern Montana. The pipeline would cross Phillips, Roosevelt, and Valley counties on its way from Prudhoe Bay in Alaska to terminals in Pennsylvania.

The Chamber has always maintained that the wise utilization of natural resources need not be environmentally detrimental or aesthetically displeasing. Based on information that we have gathered on this, we believe that the Alaska pipeline is environmentally as safe as possible, and will be of great value to the american people in their quest for energy independence.

Sincerely,
Bill Hand
Bill Hand, President
Beaverhead Chamber of Commerce

January 9, 1975 Attendance at Chicago Public Hearing by H. Hier, Illinois Depsrtment of Conservation.

January 9, 1975 Meeting with Robert K. Dodd, U.S. FWS, Princeton, Indiana, with H. Hier, Illinois Dept. of Conservation.

January 9, 1975 Phone contact between Stewart, Bureau of Outdoor Recreation, Ann Arbor, Michigan, with J. Hart, Illinois Dept. of Conservation.

January 10, 1975 Letter to Stewart, Bureau of Outdoor Recreation, Ann Arbor, Michigan, from J. Hart, Illinois Dept. of Conservation.

March 8, 1975 Phone contact between C. Tulloss, Bureau of Outdoor Recreation, Denver, Colo., with J. Hart, Illinois Dept. of Conaervation.

April 9, 1975 Letter to C. Tulloas, Bureau of Outdoor Recreation, Denver, Colo., from J. Hart, Illinois Dept. of Conservation.

April 10, 1975 Letter to Mary Ivory, Federal Power Commiasion, Washington, D.C., from J. Hart, Illinois Dept. of Conservation.

In consideration of these contacts (and many unlogged phone conversationa) the Illinois Department of Conservation would like to be recognized as being in coordination with the Northern Border EIS Team.

Page 1621

In view of the time delay in obtaining a copy of the Draft EIS, this Department requests at least two copies of the final EIS as soon aa released.

PART VI ALTERNATIVES

There is a better coverage of Northern Border alignment alternatives in Part V, Volume 3.

The Department of Conservation's conclusion, based on the material available, is that the prime route with route deviations to avoid Big Bend Conservation Area, Starved Rock State Park and Nature Preserve, Pecumsaugan Creek Natural Area and Matthiessen State Park is an acceptable alignment. Without additional study material the Line Number 3, Great Circle Route with possible minor deviations looks like it might also be acceptable. If the prime route were considered without the requested route deviations, this Department would possibly prefer the Great Circle Route.

PART VII CONSULTATION & COORDINATION

Refer to comments in reference to Part V, Volume 3, Page 1613, Paragraph 6 and Part V, Volume 3, Page 1621.

DIRECTORS
MIKE O'CALLAGHAN, GOVERNOR, CHAIRMAN
ROBERT LIST, ATTORNEY GENERAL
WILSON McGOWAN, STATE CONTROLLER

STATE OF NEVADA
DEPARTMENT OF HIGHWAYS
CARSON CITY, NEVADA 89712

GRANT BASTIAN
STATE HIGHWAY ENGINEER

October 10, 1975

IN REPLY REFER TO

EIS - Task Force
Alaskan Natural Gas Trans. System
Room 1538
Bureau of Land Management (302)
Department of Interior
Washington, D.C. 20240

Dear Sir:

As was indicated at the public hearing on October 2, 1975, the Nevada Department of Highways is submitting written testimony regarding the proposed Alaskan Natural Gas Pipeline.

The Highway Department realizes that the proposed section of the pipeline through Nevada has been deferred until such time as the production of gas from the fields in Alaska reaches a level of 600 million cubic feet per day. However, when the decision is made to proceed with the Nevada section of the system, the Department requests detailed information on the project be provided.

It is improtant that coordination on the planning and construction of the pipeline be accomplished as early as possible to avoid any conflict with pending highway projects or existing highway facilities.

Since it appears the pipeline will cross and/or parallel a number of state highways in Nevada, it will be necessary for accurate engineering information to be provided to our R/W and Utility Division so that appropraite permits can be prepared.

The Highway Department has no objection to the proposed gas transportation system and will certainly do all it can to cooperate in it's construction and implementation.

Sincerely,
Grant Bastian
GRANT BASTIAN, P.E.,
State Highway Engineer

GB/WFE:jn

cc: State Dir. N-911
BLM
300 Booth St.
Reno, Nevada 89502

STATE OF ALASKA
DEPARTMENT OF LAW
OFFICE OF THE ATTORNEY GENERAL

JAY S. HAMMOND, GOVERNOR

POUCH K – STATE CAPITOL
JUNEAU 99811

October 24, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas
Transportation System
U. S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

The State of Alaska hereby submits its comments on The Department of the Interior's draft Environmental Impact Statement on the Alaska Natural Gas Transportation System. The Impact Statement has been reviewed by many individuals in several departments of the State Government. The comments submitted here represent a compilation of their analysis. The comments are divided into a brief section of general comments and a more detailed section of specific comments.

Sincerely,

Avrum M. Gross
Attorney General

AMG:db

General Comments

The impact statement is far too long to be a manageable, useful document for decision makers. Several hundred pages are devoted to mere paraphrasing of Arctic Gas' application. Some discretion should have been exercised in selecting the significant features of the project for presentation in detail. Less significant aspects of the project should have been presented in summary form. Also, the document is very repetitive which further contributes unnecessarily to its length.

The document is intricately organized in terms of categories, subdivisions and subdivisions of the subdivisions. However, the net effect of this organization is to raise form over substance. As noted the document is repetitive. It is also disjointed and even contradictory on certain matters. It is simply not possible to get a complete picture from beginning to end on any particular subject without turning through more than a thousand pages, selecting out paragraphs here and there.

Where the impact statement questions the applicants plans, procedures or analysis, the statement should present the reasons behind the conclusions. Furtheremore, when the Department of the Interior concludes the applicants plans are unsound or unrealistic, the impact statement must identify what alternative courses of action are available of such alternatives.

The impact statement fails to make use of up-to-date, readily available data in many places, but especially in the analysis of socio-economic impact on Alaska. The statement obviously relied heavily on an analysis prepared by consultants for Arctic Gas. That study was prepared more than 1 1/2 years ago and used as input data projected effects of the TAPS pipeline. Actual data is now available, and in many instances the actual numbers differ substantially from those which were projected. Use of 1970 census data is also unjustified in view of the recent population growth in Alaska. Finally, the impact statement treats the proposed project as if were the only development likely to occur in Alaska. No effort was made to integrate and evaluate the combined effect of OCS development with the simultaneous construction of the gas pipeline.

The discussion of alternative Trans-Canada routes as well as the discussion of the Trans-Alaska LNG route is inadequate when contrasted with treatment of the Arctic Gas

prime route. What is needed is a summation and comparison of the significant environmental advantages and disadvantages of each route so that decision-makers and others may make an intelligent review of the options available.

Part I - Overview

I:6. What is the basis for the statement that planned delivery is 4.5 Bcf/d after 5 years of operation? This is contrary to testimony given by Arctic Gas during FPC hearings. Is such a rate of delivery technically feasible and consonant with sound conservation practices?

I:7. The statement that the volume of gas reaching the United States after 5 years would be 2.25 Bcf/d plus Canadian exports when followed by the statement that excess capacity would be 3.65 Bcf/d suggests that Canadian exports may be substantial. The impact statement should provide an assessment of the likely exports which will be available from Canada. In the absence of an independent assessment, the likelihood of substantial Candian exports must be discounted in the light of recent Canadian National Energy Board policy. (*See* "Canadian Natural Gas Supply and Requirements," April, 1975 published by the NEB)

The final impact statement should also address the question of whether excess capacity of 3.65 Bcf/d will still exist in light of modifications proposed by Northern Borders and Canadian Arctic Gas.

I:10. The fact that 41 million cubic feet per day will be delivered to the first four pump stations of the Trans-Alaska Oil pipeline coupled with the potential use areas along the route thru Fairbanks and then eastward along the Alaskan Highway to Canada, augments the potential desirability of this route. This is addressed later in our analysis of alternatives.

I:45. In the last paragraph the necessity for electrical power at each valve should be addressed in further detail. Will power lines be required and, if so, where?

I:79 (3). The location, availability, and impact of water source locations must be addressed in detail. It is one of the greatest potential problems associated with the proposal.

I:89. In the event one of the routes affecting the Arctic National Wildlife Range is selected, we believe issuance of a permit should be based on a requirement to salvage all pipe, etc. because without a doubt the pipe will eventually be forced to the surface by frost action. Detailed plans for abandonment must be provided by the applicant.

I:168 (1). Erodability of the soil should be qualified with the statement "provided the thermal balance is not disturbed." The Prime Route actually disects the Porcupine caribou herd calving area.

I:216 (3). Has the feasibility of collecting seed from native vegetation been considered? Will the chilled pipe reduce the ground surface temperature and affect the revegetation process?

1:229-232. This brief summary of Alaska's economy, focusing on the North Slope in particular, completely ignores the importance of public activity in the economic structure. No mention is made of the historic and current importance of Federal and State agency expenditures in the economy of the larger rural communities. The Naval Arctic Research Laboratory in Barrow, for example, constitutes a major portion of that community's economic base. This oversight is significant in that large-scale impacts on public service costs and delivery will, in Alaska, have a very serious effect on the State's overall economy. This phenomenon must be kept in mind during any analysis of the socio-economic impacts of the proposed activity.

I;235. This section on employment and personal income would be improved if figures on per capita incomes in Alaska and/or in the North Slope study area were given, as well as a more quantified indication of the differences in income levels with the State.

Also, the inference that Native individuals receive "substantial sums" from the $962.5 million ANCSA should be put in more perspective. The ANCSA was not intended to provide income to Natives; a brief analysis of the Act's provisions will show that individual Natives receive only small amounts of money through the Act. (For example, first-year appropriations under the Act resulted in an individual village corporation member's annual entitlement of approximately $181.25.) The Act, however, provided lands and funds to establish large corporate investment structures to compensate Natives, on a group basis, for land rights originally abrogated by the United States. As a result, the major portion of this money will be invested or banked at much lower levels of individual return than the summary figures indicate.

1:238. The statement that "When oil is being produced at 2 billion barrels/day, Alaska will collect a royalty of $150 million per barrel of wellhead value" is unintelligible and provides no information on State royalty income (also, field production is 1,000 times overrated; i.e., actually 2 million instead of 2 billion).

The BLM's expectation of a "strong expansion of forestry" in Alaska during the post-oil pipeline period is not widely held. Does BLM have an independent assessment that it would share, or is this statement the result of insufficient analysis?

I:245-46. The population figure for Kaktovik and Prudhoe Bay shown in table 2.OV.10-1 is incorrect. The number is for the entire state of Alaska (1970 census number). Furthermore, the 1970

population count is seriously out-dated and should not be used as a baseline unless adequately adjusted to reflect recent population increases.

I:246. A population figure for the Prudhoe Bay-Deadhorse area of 212 appears to be lifted straight from the 1970 Census. At last count, the work force at this development complex was several thousand, not including nearby pipeline construction personnel.

I:253. Alaska has 11 organized boroughs, 12 home rule cities, 22 first class cities and 107 second class cities at last count. The statement that "boroughs are comparable to counties generally found in the lower 48 States" provides little information on the very strictly written relationship in the exercise of municipal powers between boroughs and cities.

I:283. Private airstrips are located at Prudhoe Bay, but their use is being discouraged in favor of a main State-owned airstrip at Deadhorse, in the interests of safety and with oil industry support.

I:302. The name "Village of Kaktovik" seems to be used to refer, in different places in Parts I and II, to either the City or the ANCSA village corporation, usually in terms of land use management and control. This section incorrectly states that the City of Kaktovik may exercise planning, platting and zoning; cities within organized boroughs do not have these powers.

I:304. BLM states that it is uncertain "whether Prudhoe Bay, whose residents are now mostly temporary, will emerge as a permanent population center . . . ." A permanent, diversified community at Prudhoe would likely result in increased public costs. The possible impact of this additional project on the "community" nature of the Prudhoe Bay development should be explored further; does this project, in effect, make the establishment of a permanent, non-industry town more likely?

I:387-388. This section, supposedly presenting an overview of socio-economic impacts, consists of only the vaguest generalities. There is no indication that impacts have been quantified in even the most limited sense, and no judgment of trade-offs or net benefits is given or is possible from the information presented. In short, this section says little of value.

I:390-391. This section on land use impacts indicates that some major socio-economic impacts could be generated that are not mentioned in the preceding socio-economic section. To quote, There is a possibility that the existence of a transportation system would stimulate an increase in further exploration and possible development of potential oil and gas basins in northern Alaska and Canada as well as the coal field in Montana and other parts of the U. S. The impacts from this aspect can be major and of national significance."

The offhand treatment of this point here and in later detailed sections indicates that the BLM is not fully considering its role in the development of the country's energy resources in an efficient, coordinated manner. The indirect impacts of a project on the economic feasibility of additional resource development should have a definite place in the BLM's planning and analysis.

I:424 (3). The applicants proposal to essentially cause no harm to fish, their habitat, and water quality is a preposterous statement. All these things shall happen to a degree. Only the degree of adverse impact can be mitigated. No pipeline could be constructed in accord with this paragraph.

I:453 (3). The adverse impacts of minute concentrations of sulfur dioxide to vegetation in the Arctic must be addressed here and in other parts of the statement.

I:473. Aside from the unavoidable short-term economic impacts listed, the AAGPC project is likely to have long-term inflationary impacts in Alaska. In addition, if this project leads to the deregulation of natural gas prices to ensure project feasibility, national economic changes with long-term impacts will result.

I: 480. The trade off suggested by the impact statement is based on the unproven assumption that the Arctic Gas project would deliver 4.5 bcf/d.

I:498(3). What mitigating measures are developed to lessen impact to snow geese utilizing the ANWR?

I:503. After a discussion of the historically negative effects of development projects on surrounding subsistence resources and lifestyles, the BLM analysis concludes with the rather idealistic statement that "Such a long-term trade-off should only be made with the full understanding and consent of the people affected." In actuality, however, the views of the residents of Kaktovik or some other community are likely to have little effect on the decision to proceed with the project. What should be required is a definite commitment by the applicant to take positive steps to replace the destroyed subsistence economy with real access to a cash economy. For instance, the applicant' makes no commitment whatsoever to hire or train Alaska Natives for line work. If social costs are generated by the applicant's destruction of a subsistence economy, perhaps the applicant should be required to meet the increased costs of food stamps, public welfare, and so on, which are later suggested as "remedies" for the loss of subsistence resources.

I:510. The BLM's suggestion that the "Complete removal of the pipeline accompanied by rehabilitation of the right-of-way would avoid the great majority of these (safety) risks" would seem to duplicate many of the impacts of the original pipeline construction project.

I:545(1). Would not any pipeline delivering North Slope gas to the United States accomplish the same? This statement should either be expanded or deleted.

I:541-556. The section on Alternative Energy Sources presented in the overview indicates the relative importance of administrative action in regard to the nation's energy consumption and the need for this pipeline project. Page 542 states that deregulation of gas prices would result in the market availability of more gas than the AAGPC line would deliver; whether the AAGPC gas could compete in pricing under deregulation is not made clear.

The BLM report also indicates that even the limited conservation measures outlined by President Ford in January of 1975 would decrease energy consumption by several times the amount the AAGPC line will produce.

I:228-31. This discussion is highly superficial and adds nothing to an understanding of the gas pipeline proposal.

I:527. The use of gas to operate the reinjection facilities until gas can be shipped also constitutes a commitment of an irretrievable resource. If the project is delayed the quantity of resource committed to this purpose is increased.

Part II - Alaska (3 Volumes)

General Comment: The draft impact statement considers applicants plan to use snow roads but does not adequately evaluate the feasibility of the plan. The final impact statement must deal with this aspect of the Arctic Gas proposal in a direct and comprehensive manner. The final statement must state whether or not snow roads will adequately protect the tundra in light of the volume of heavy traffic which will travel over them. Will sufficient snow be available at the times applicant will need it? Are applicants plan for collecting or manufacturing snow feasible? Are water supplies available? If not, what alternatives are proposed? What are the impacts of these alternatives? The draft impact statement raises more questions than it answers concerning applicant's planned use of snow roads.

II:38. What adverse impacts are associated with the wharf facility and causeway at the staging sites?

II:79 (3). Summer stockpiling of material on a floodplain should be avoided if planned. The Atlantic Richfield Company stockpiled material in the floodplain of the Sagavanirktok River several years ago and found the piles did not drain and froze solid rendering the material nearly unavailable.

All listed activities scheduled to occur during the summer months will raise havoc with wildlife in the area. These impacts must be documented and assessed.

II:98 (1). Will the applicant cut the tundra so that it can be reused? If a suitable process were developed this could certainly reduce the amount of revegetation needed. This section needs clarification.

II:107 (4). What transportation method does the applicant propose to use during the summer months to revegetate the area?

(5). Where will the applicant obtain native vegetation seed?

II:108 (1). Has the applicant demonstrated that striping native sod to be replaced is practical and effective?

II:117 (1). Any permit issued must specifically exclude overland vehicle use during the summer (thaw) months. Use of any wheeled vehicles would cause damage.

II:184. Although the ice fog itself may not be directly harmful, indirectly it certainly reduces visability which can lead to accidents and is associated with periods of concentration of harmful air pollutants.

II:203. The oil and gas field shown to exist in ANWR is speculative and should be deleted from the map. The map seems to suggest the field is comparable to Prudhoe Bay in size. Also the boundary of Naval Petroleum Reserve No. 4 is the western bank of the Colville River.

II:251. This discussion should indicate what underlies the soil, (bedrock? permafrost?)

II:254 (3). This sentence should be reworded because permafrost in this area is continuous and does block the downward migration of water.

II:272. We are not aware of any findings of ground water below the permafrost in the vicinity of applicants pipeline route. What is the source for the information in this paragraph?

II:273 (2). British Petroleum is exploring the ground water thaw bulb adjacent to a deep river channel of the Kuparuk River this winter. These data will hopefully be available and may be of use to the applicant.

II:277 (5). Does the applicant plan to melt lake ice as a source of water? We encourage use of ice from the shallow lakes in the area to avoid adverse impacts to the fishery resource.

II:310 (1&2). It should also be pointed out that the Porcupine caribou herd is the second largest in the State of Alaska and the population estimates should be credited to the Alaska Department of Fish and Game.

II:323. Data presented on this page must be revised. For instance, 48 musk ox were released in 1969 and the 1973 estimate of surviving adults was 29 not 2 as stated.

II:324. The musk ox transplant has been termed a success by The Department of Fish and Game.

II:349. Use of the term "hair seals" is not accepted terminology. Perhaps the statement should be reworded to state the ratio of harbor to bearded-ringed seals is unknown.

II:353 (4). The Alaska Department of Fish and Game certainly did not consider the polar bear a land animal before passage of the Marine Mammal Protection Act.

II:360 (3). We believe the U. S. Fish and Wildlife Service has identified trumpeter swans nesting locations in the ANWR.

II:370 (2). The U. S. Fish and Wildlife Service has estimated that in excess of 400,000 snow geese utilize the ANWR. They should be contacted for specifics.

II:668. The figure on this page shows the effect of a snow road upon the active layer, not the effect on a chilled gas pipeline as labelled.

II:672. What is the magnitude and consequence of the water migration described here. What consequence if the migration does not occur?

II:677. What effect will the ground water trapped upslope of the pipeline have on the underlying permafrost? Will it affect the thickness of the active layer?

II:723 (2). We suggest the statement regarding the rapid natural healing of borrow source locations on floodplains be qualified with a statement that nearly constant surveillance is required to assure the stipulations regarding the borrow source are closely followed. Also it should be clarified the statement is directed to aesthetic concerns and not to the effect upon the hydrology of the stream.

II:740. The source of the information regarding the success of exotic plant species in the Arctic should be cited. What has been the success of applicants experiments using exotic plants?

II:773 (2). It should be recognized that a thousand or more caribou likely will be wintering in the vicinity of the project. The impact of construction activities upon these wintering caribou would be significant.

II:788 (2). Pregnant polar bears do not "seem to require complete quiet" to successfully bear a young, they do require solitude. The effects of construction activities on polar bear denning and reporduction would be deleterious.

II:826 (2). The assumption that the Arctic Gas project will not cause a significant number of unemployed, nonresident Alaskan oil pipeline workers to remain in Alaska must be explained and justified. The State's experience thus far suggests that persons seeking employment on a major pipeline project respond very slowly to the job market which cannot employ them. In our view, it is possible the proposed project could aggrevate unemployment in Alaska.

II:828-35. This section does not address adequately the projects impact on employment and income.

II:829. What will be the effect of high project employment in winter and very low employment in summer?

General Comment: Throughout the analysis of employment and unemployment effects, the impact statement fails to take advantage of the most up-to-date data available. Rather the analysis relies on predicted levels of employment and unemployment which actual events have shown to be inaccurate.

II:839. The analysis of the projects impact on unemployment among Alaskan Eskimos, Indians, and Aleuts should be redone taking into account the actual levels of native employment achieved by the oil pipeline.

II:842-43. What assumptions are made about the continued operation and maintenance of the airfields associated with applicants project? Will the State incur any costs by reason of these airfields?

II:843-45. The impact statement should consider the effect of OCS development occurring simultaneously with construction of applicants pipeline.

II:844.(1). Is petroleum drilling and production expected to occur within the confines of the ANWR?

II:846-47. If the North Slope Borough is already taxing petroleum-related property at the maximum rate of per capita revenue allowed by State law, then the Artic Gas facilities will not increase total revenues. This possibility should be considered in the final impact statement.

II:868. The second paragraph should be updated. The all-weather road from Fairbanks to Prudhoe Bay is completed.

II:871. The valuation of the subsistence harvest of the residents of Kaktovik is misleading. The quoted price of the food is the Anchorage price. It would cost considerably more to purchase such food in Anchorage and ship it to Kaktovik. More significantly, the valuation suggests that the impact can be measured in dollar terms when in fact the real impact will be a reduction in Kaktovik's ability to function as a self-sufficient community.

II:901 (1). Even considered as isolated components, the pipeline and block values will have a major adverse impact on existing wilderness.

II:966 (1). We hope the repair procedures to be submitted by the applicant at some future date will be reviewed in detail and the probable impact assessed before the final environmental impact statement is prepared.

II:1128. The effects of diluting and then spraying methonal over the land must be fully assessed before such a procedure is approved.

II:1147-1148. In this section, BLM concludes that the income benefits to the State will be positive, without indicating what the costs might be; i.e., there is no indication of the cost/benefit trade-offs and extend of net impacts. This seems important, as BLM itself states that AAGPC's unemployment analysis is questionable (but accepts AAGPC's assumption that no significant increases in public costs will occur).

II:1148-1150. In this section, BLM quotes AAGPC's rubric about developing a "balanced local economy" on the North Slope. However, there is no BLM analysis concerning how this project will contribute to a "balanced" (diversified? stable?) economy by continuing a short-term, highly seasonal boom condition, which will result in a low level of long-term employment and service activity.

BLM's conclusions on the infrastructure impacts of the AAGPC project appear even less analytical. BLM's entire "analysis" consists of the statement that "The project will have minor and probably balancing (some good, some bad) effects on Alaska's population, housing and community services." These generalities would be more reliable if some evidence of a more quantitative analysis was presented; if more in-depth analysis was not done, BLM's conclusions cannot be accepted. (Note: On page II:1290, BLM predicts a continued housing shortage and on page II: 1238 warns that the project could create serious unemployment conditions!)

Finally, the BLM agreement that the project may "stem the flow of outmigrating oil workers, "take up the slack in the housing market and not require the level of community services that the oil pipeline required does not agree with BLM's own earlier statement regarding employment, unemployment, transportation needs and housing stocks. While it may be correct that the AAGPC line will not require the level of services that oil pipeline construction demanded, there is no indication of the AAGPC requirement for community services relative to AAGPC mitigating measures. (What level of services will be required? At what public costs?)

II:1152. BLM's analysis of the measures needed to mitigate impacts on transportation is inadequate and ignores BLM's earlier findings on pages II:842-843. There, BLM predicted widespread inflation and public cost increases resulting from competition for air and water transportation services. This later analysis considers only the impact on the transportation facilities themselves, with BLM equating an increase in business with a positive impact. The October 1975 military airlift to Prudhoe Bay at a direct cost of some \$3.5 million in Federal funds plus other hidden costs indicates the necessity of requiring the applicant to take measures which will minimize public transportation cost increases. (Require the applicant to provide its own cargo services? Contract for emergency services in advance, so airplane, barge and tug services will be available when needed?)

II:1153-1154. In its consideration of the mitigation of impacts on subsistence, BLM again employs the rationale that "a balanced local economy" will more than compensate for the loss of subsistence resources, without any more rigorous analysis of actual local opportunity. BLM's own analysis of the impact on Kaktovik shows that losses will more than exceed local opportunity and that a total permanent employment on the North Slope of about 75 people (with no commitment to local hire) will likely provide only limited opportunities to other North Slope residents.

(Note: On page II:878, BLM expects the impacts on Kaktovik's subsistence economy to produce a local welfare economy that cannot be mitigated by the limited AAGPC opportunities.)

II:1154-1157. BLM's concern over the absence of a coordinated Federal, State and local planning and land management effort is well taken. Does this indicate that BLM will itself begin to analyze the interrelationships between its own development proposals in Alaska (Lower Cook Inlet, Gulf of Alaska, Bering Sea, etc.) and elsewhere in terms of employment, unemployment, community services, transportation, communication needs and attendant public costs?

II:1174 (4). We do not believe the abandoned line would remain frozen in the permafrost soil but believe portions of it would be forced to the surface. This process would cause the right-of-way to appear like a giant molehill. Subsequent degradation to adjacent permafrost soils would be obvious. Has the applicant provided any data from its test facility at Prudhoe Bay which relates to this problem?

II:1180 (2). This statement assumes that applicants will have year-round surface access. This is not true on state lands where during the thaw months rolligon use is usually permitted only in the drier tundra areas. Revegetation practices in the Arctic to date have in general been a dismal failure and such statements by the applicant must not be accepted without a factual basis.

II:1198-1199. We wholeheartedly concur with this analysis and laud the recommendation that other modes of construction other than burial be considered.

II:1235. The applicant must demonstrate the feasibility of their revegetation program. They must also show that the frost bulb formed around the pipe will not alter drainage patterns, stream channels, and water temperature regimes.

II:1238. BLM again warns that high unemployment levels may result from the AAGPC project; however, this warning is not heeded in other sections of the DEIS dealing with impacts on public services, employment, local and State income, etc.

II:1239. The "minor" dislocations caused by transportation service shortages does not reflect the analysis on pages II:842-843. There, major short-term impacts were predicted.

II:1239-1240. The conclusion that the impact on Kaktovik will be "less severe" than on an equally remote community that has had no previous contact with large development projects seriously misinterprets the actual impacts on that community. By BLM's own admission, Kaktovik will become a welfare community with no requirement for mitigation of the resulting public costs by AAGPC (see page II:878 of the DEIS).

II:1241. Because of the high cost to maintain a population in the Arctic, the Department of Natural Resources, Alaska Division of Lands does not intend to dispose of any state lands to private interests. The thesis is to prohibit permanent settlement in the Arctic.

II:1284. Removal of the willow cover may also alter drainage patterns if the willows act as natural snow entrapment areas.

II:1333. We suggest a reevaluation of the offshore proposal be made with the assumption that a double (looped) line could be buried offshore with compressor stations located on state and Canadian lands thereby avoiding the necessity for compressor stations in the ANWR. The objective being of course, to reduce as much impact as possible, including visual impact, to the ANWR.

II:1335 (3). The Arctic Ocean is not a conventional area and we encourage the applicant to consider developing technology to use ice and cold as an advantage rather than attempting to modify temperate and tropical construction methods in an attempt to conquer the Arctic. For instance, we suggest the applicant consider burying during the winter months a double line following the shoreline as closely as possible in an area of less than 6 feet of water. This is the area of bottom fast anchor ice which could be utilized as the working platform as it is already level and would require no gravel, water, or snow for its construction. It would also delete the necessity for expensive and detrimental access road construction, stream crossings, etc.

Biologically the nearshore area is extremely productive during the summer months but during the winter months, the area is essentially unproductive.

The position of the Alaska Department of Fish and Game is that an offshore line is the only acceptable route affecting the ANWR. The other routes proposed by the applicant are 1) the straightest and thereby the most economical and 2) the shortest route using "conventional construction methods" skirting the ANWR. The case at hand is a classic example of government reacting to proposals by industry. It is the opinion of this department that the committment of wildlife, land, wilderness and other values by either proposal is unrealistic and intolerable. Again, the only location for a pipe(s) affecting the ANWR is either in the nearshore or offshore area of the Beaufort Sea.

II:1340 (2). If a double line were utilized and properly designed it is probable that only one of the lines would be damaged and the other could continue to supply gas. The nearshore area would be far more accessable than offshore locations during the critical periods listed except for perhaps at the mouths of major rivers. Also the periods listed are not major periods of consumption and the reduced supply would likely not cause a crisis.

(3). Costs as presented here are merely a justification by the applicant. In the mind of this department the sanctity of ANWR is certainly worth more than 300 million dollars. The analysis of impact must clearly establish the value of retention of the last area of the Arctic coastal plain in this country.

II:1347. The discussion on currents is inadequate. Additional information is available in The Coast and Shelf of the Beaufort Seas, edited by J.C. Reed and J.E. Sater; see articles by D.J. Mountain, W.J. Wiseman et al, and E. Reinmitz and P. W. Barnes.

II:1375 (2). The beach, nearshore and offshore pipeline locations and alternate construction methods such as elevation must also be considered for state lands.

II:1380 (2). The discussion should be of ringed seals not ribbon seals.

II:1393 (1). We see no reason why an offshore pipeline could not be constructed in one summer or winter season. The applicant should address this in detail.

II:1399 (5). Does the statement that an offshore alternative would delay delivery of natural gas at least 5 years have any factual basis?

II:1405 (1). We see no reason why fill must be mounded over the offshore lines at the mouths of rivers. These mounds could either be leveled or breaks excavated through them. If not, these mounds would obviously be removed during periods of high discharge anyway.

II:1406 (1). It is the policy of this department not to allow removal of material from barrier islands or other critical areas.

II:1410. Estuarine crossings may have greater adverse impact than stream crossings. Data collection and evaluation is essential to resolve this question.

II:1412. The entire food web will be affected - not just a food chain.

II:1416. In the previous discussion of the Prime Route we did not see the statement regarding the "threat of complete loss of major reduction of herd size" of the Porcupine caribou herd. Why was this omitted?

II:1418. A nearshore route would adversely affect musk ox because of their dependence on the beach area for winter range, but this could be mitigated.

II:1426. Because of the staging activities that will occur along the coast, many of the adverse impacts listed here and on previous pages could, with minor revisions, directly apply to the Prime Route.

II:1433 (2). Impacts such as these must be reconsidered in light of the suggested nearshore fast-ice route incorporating a double line which will negate the need for compressor stations in the ANWR.

II:1440-42. As discussed previously, the nearshore fast ice route must be studied in detail. Is it known for certain that the sea bed would be frozen in the 5-10 foot water depth area? Would strudeling seriously threaten the integrity of the pipeline? Since benethic organisms are absent in the area of bottom fast ice during the period of ice cover, would winter construction severly disturb the productivity of this area? In summary the entire offshore discussion must be rewritten.

II:1474. Is snowfall on the coast significantly less than inland along the Prime Route? Snow fences on sea ice and subsequent use of machinery would certainly cause far less impact than on upland locations.

II:1478. Are there any deep lakes located along the coast or Prime Route?

II:1480. Concise statements such as these should be the theme of the final draft statement. These statements also apply to the Prime Route.

II: 1558. What is meant by "dramatic" changes in the thickness of the active layer when the surface is distrubed.

II.1688. Are figures available to show that the loss of net annual primary production in plant life in the locality of the pipeline is insignificant compared to net production in the surrounding areas? What secondary effects might the loss produce if it is assumed that vegetation is used maximally by wildlife?

Map 8.1 1.4	(shown on pages II - 1817, 1820, 1821, 1823, 1825, 1835, 1836, 1839, 1847, 1853, 1867, 1876, 1900, 1917, 1969) appears to incorrectly represent TAPS right-of-way when compared to diagram on II-1807.
Map 8.1 1.5	(shown on pages II - 2129, 2133, 2135, 2137, 2141, 2159, 2164, 2170, 2179, 2196, 2204, 2241, 2338) Appear to incorrectly show the Fairbanks Route since the Ladue River option is not included as shown on page II - 2119.

II:1838. Prospective gravel sites and intensity of use should be identified. Also if local shortage is anticipated, alternative actions must be identified and evaluated for their environmental impact.

II:1840. A study ought to be made concerning surface deposits.

II:1857. Land slide studies certainly would be required for this route.

II:1860. More detailed study of seismicity, especially active or potentially active faults, is essential.

II:1941. One can definitely expect micrometrological changes due to compression emissions. Exhaust would certainly produce cloud (fog) and perhaps ice fog in the immediate area. Temperature increases radiated to general area could alter ecological balance. (see II - 2060 thru 2062)

II:1944. The tone of the discussion regarding impact seems to be directed toward the final facility. No discussion is directed toward impact during construction. It would be appropriate to include statements discussing: how to bury under rivers, flood plains, mountain sides, etc., how to insulate buried pipe in frozen soils, how to replace soils without undo mixing with subsoil, how to protect surrounding environment from temporarily removed material before back filling, how to deal with removal of vegetation?

II:1947 (2). This objective discussion of permafrost should be included in the discussion of the Prime Route. Of the pipeline routing alternatives considered by the applicant, the Alaska Department of Fish and Game believes the only alternative of merit is the Fairbanks routing. First it is proposed to be located in a developed pipeline corridor where the resource agencies possess a wealth of knowledge of the biological resources and first hand knowledge of pipeline construction. Year-round construction is possible along an already constructed highway and if the pipe were buried in or immediately adjacent to the existing road, additional adverse impact to the environment would be minimized as would additional requirements for gravel. Camp locations, material sources, and all-weather access, staging areas, etc. are available.

An important factor is that Alaska would have the option of utilizing some of its' gas within the state. Utilization of natural gas to generate electricity, encourage conversion of highway vehicles to operate on propane, heating of homes and commercial establishments with natural gas, etc. all could have a marked effect on improving the quality of air in the Fairbanks area which because of climatic factors is presently one of the worst in the Nation. This potential must be extensively assessed in the final draft environmental impact statement.

The statement should also assess the positive and negative impacts of reducing the dependence of the communities along the pipeline upon other petroleum products which presently must be imported, and the potential for petrochemical industrial development along the route.

II:1956. Discussion of impact of frost heave exposes hazardous situation; but no statement is made on how this problem will be dealt with. It is foreseeable that great difficulty may be had in keeping pipe buried due to heave influence, especially near water and under rivers (note difficulty Alyeska had with its pipe under rivers.)

Also, using auto emissions in Fairbanks as an example, these produce long term ice fog. Construction equipment could be expected to have the same result in specific locations conducive to ice fog formation.

II:1973. To get water from larger lakes which are not immediately adjacent to right-of-way will impose wear and tear across landscape covered during transport of water. Some statement is needed on the type and magnitude of impacts and protective and restorative measures.

II:1972. Statements concerning methods of excavation and backfilling are needed; also depth of excavation. Excavation depth is particularly relevant when comparing burial on sheltered vs unsheltered landscapes and when crossing streams vs elevated drier terrain.

II.1997. Annual seeding and/or fertilization might have adverse impact - continual treading on landscape will negate any natural revegetation. Also accumulated fertilizer may become pollutant in water system and/or toxic to certain life forms.

II:2001. "The exact effects are unknown and probably would be of little consequence to regional vegetation." There is no basis for this assumption. In fact, the previous statement suggests just the opposite, especially when this new water source would effectively feed the frost bulb.

II.2002. No impact statement evident for summer repair work. Such action would in itself do more environmental harm than the original construction (short term and especially long term). Any repair work would first require the disassembly of previous work - techniques involved here could jeopardize the environmental stability, for example: problem of getting into pipe through frost bulb, cutting out section of bad pipe, welding new pipe, water content in back fill, subsequent heave, drainage, problems, etc.

II:2015. A minimum flying altitude must be imposed and at on altitude adequate to protect wildlife populations.

II:2030. Siltation, introduction of pollutants and loss of dissolved oxygen are not only possible but probable impacts, with potentially significant adverse affects on the viability of fish populations.

II:2062. 6000 gallons of water per hour released as vapor would definitely produce fog and clouds under certain conditions and therefore greater humidity and possibly local precipitation which would subject the ecosystem to new conditions. The feasibility of recycling for human use should be explored. Heat production suggested would have the effect of warming the local environment therefore presenting the potential for thaw permafrost, leading to adverse impacts on the plant and possibly animal community. Can this be harvested and recycled to heat facilities?

Concern seems to be expressed primarily for human populated areas as far as significant impact. There ought to be greater concern for plant populations and their short and long term productive capacity. Also concern ought to be greater for animal populations resident in immediate area (like Parka Squirrel).

There is little doubt that SO_2 will have long term impact causing a shift in lichen populations. Consider the productivity (short and long term) and its value to the caribou.

II.2066. When station start-up occurs, 150 mcf of unburned gas will be released, but no statement is made regarding the frequency of these releases.

II.2067. No statement is made concerning the adverse impacts of unburned gas on wild fauna/flora during the "temporary period it may be near ground".

Any gas leakage will result in extremely explosive conditions. Explosions and/or fire could have pronounded impact on this fragile environment.

II.2068. Noise level, although apparently not disruptive to man, may be quite disruptive to wildlife.

II:2069. The justification for low flying aircraft is not outlined and ought to be in light of extensive disturbance (harassment) of wildlife.

II:2070. Techniques for explosive excavation ought to be developed and impact determined before permits are issued and actual construction starts.

II:2084. Inconsistent consideration is given to sociological factors of the Fort Yukon Route vs Fairbanks Route.

II:2279. One can plan on subsequent settlement as a result of both weight and differential thaw. Pneumatic compactors would greatly reduce settlement; however, any settlement will threaten pipeline integrity.

II:2281. Reference to water migration fails to indicate net movement of water on an annual basis. This will be critical in determining long range stability of the pipeline in a dynamic permafrost.

II:2297. Refeence to "Water Availability under Geological and Environmental Hazards" incomplete.

II:2302. Is it true the pipe will form a frost bulb extending up to 25 feet laterally from the pipe and 36 feet below the pipe? Would surface soils be frozen or cooled to the point where revegetation will either not occur or be retarded? Since the active layer on the North Slope is a maximum of 18 inches, we suspect the balance will be so impared that it will likely remain frozen year-round. Will drainage be effected to the point where the permafrost upslope of the line will degrade forming a canal? How does the applicant propose to reduce these adverse impacts?

II:2308. Parallel pipe under streams to be alternatively used is suggested as control of frost bulb yet no reference to spacing of pipe nor effectiveness is mentioned.

II.2320-21. Reference made to bulb hazard if cut vegetation is not entirely destroyed yet no statement is made concerning planned action. Burning would be inexpensive and easy; however, this would also have intense, local impact on permafrost.

II:2324. Introducing new plant species may not be desirable should one or more become established and dominant in the community.

II:2327. New plant communities expected to grow on the pipeline berm are not identified.

II:2328. Lichens are not only an essential part of the food web, they are an integral part of the ecosystem as far as soil development and insolation.

II:2329. The assumption that the vapor plume would be of little consequence to regional vegetation is unsupported. Potential increases in humidity and ice fog may have substantial influence of both vegetation and permafrost.

I:2349-2351. New regulations will undoubtedly be needed to prohibit harassment, hunting and trapping within several miles of pipeline right-of way.

I:2352. Bears will probably not be relocated from an area if they become a nuisance through increased encounters with humans. They will probably be destroyed.

Denning and nesting area are unique to the bear life cycle. Protection of this habitat is essential.

II:968. The use of ACV's as an effective mode of transporation on tne North Slope has not be adequately demonstrated at this time. The Department of the Interior should study the state of the art and assess the feasibility of the Arctic Gas proposal for repair in the light of such study. Alternatives should be considered. During Spring break up high water may prevent the passage of heavy equipment needed to effectuate a repair.

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opp

STATE OF IOWA

Office for Planning and Programming

523 East 12th Street, Des Moines, Iowa 50319 Telephone 515/281-3711

ROBERT D. RAY
Governor

ROBERT F. TYSON
Director

November 7, 1975

Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas
Transportation System
U. S. Department of Interior
Bureau of Land Management
Washington, D.C. 20240

PNRS Number: 760151
Draft Environment Impact Statement
Alaska Natural Gas Transportation System

Dear Mr. Koenings:

This office forwarded to you on September 25, 1975 our Project Notification and Review Signoff for the above-named project. After that date we received further comments from the State Historical Department of Iowa, Division of Historic Preservation.

We are forwarding a copy of these comments herewith and request that they be attached to the Project Notification and Review Signoff that was received from this Clearinghouse. Thank you for your cooperation.

Sincerely,

A. Thomas Wallace

A. Thomas Wallace
Federal Funds Coordinator

ATW/sm

STATE HISTORICAL DEPARTMENT OF IOWA
DIVISION OF HISTORIC PRESERVATION

ADRIAN D. ANDERSON, DIRECTOR
HISTORIC PRESERVATION OFFICER

September 25, 1975

Mr. A. Thomas Wallace, Jr.
Federal Funds Coordinator
Office for Planning & Programming
523 East 12th Street
Des Moines, Iowa 50319

Re: Project #760151, Alaska Natural Gas Transportation System

Dear Mr. Wallace:

This Draft Environmental Impact Statement notes that historic/archaeological sites represent a finite, non-renewable resource which will almost certainly be encountered and adversely affected by this project. On pages 1330-1331 of Volume V, there are nine recommendations for reducing the impact of this project on archaeological, historical and related resources. In general, we concur with these recommendations. However, as the ninth recommendation applies to Iowa, we would like to add that the salvage of archaeological data and artifacts should be done under the supervision of the State Archaeologist and the State Historic Preservation Officer as well as the National Park Service.

In connection with this project, we would like to stress the need to initiate the compilation of an inventory of cultural resources in the project corridor as soon as the exact project route is chosen. To delay the surveys needed to produce such an inventory until late in the planning process could lead to project delays if extensive mitigative measures were necessary. This is particularly important with regard to this particular project because the corridor crosses an area of Iowa which is almost unknown archaeologically, but which seems to contain a wealth of prehistoric sites based on interviews with artifact collectors. It would be difficult to draw another line representing 240 miles on the project map of Iowa that would cover an area so poorly known with regard to its prehistoric resources.

Under the broad definition of historic resources there is a resource which perhaps deserves more attention that it receives in this document. I am referring to paleontological resources. Although these resources are mentioned on page 028 of Volume V, we are unable to find satisfactory recommendation for the mitigation of the adverse affect this project will have on paleontological remains. Paleontological sites, like archaeological sites, are finite and non-renewable. This pipeline will probably adversely affect a number of late

Pleistocene and early Holocene sites. The project corridor enters the state in a recently glaciated region which was covered by the Des Moines Lobe of the Cary Ice Sheet (see pages V-273-276). In this area, it is likely the pipeline will cut through late Pleistocene and early Holocene bone beds embedded in peat deposits. Near the edge of the Des Moines Lobe, forest beds buried beneath the Cary till may be unearthed by the project. East of this recently glaciated region, along streams dissecting the Kansan Till Plain, fossiliferous deposits dating from various periods of terrace formation and channel filling will most likely be unearthed by the project. We suggest, that prior to construction, a paleontologist should inventory likely locations along the route where significant fossil bearing deposits might be found. However, unlike most archaeological investigations which ideally should be done in advance of actual construction, it may be possible for paleontologists to extract much of their data by coordinating their efforts with those of the construction crew as the project proceeds through fossil bearing deposits.

The first step in clearing this corridor for the project will be assembling a team composed of archaeologists, a historian and a geologist with a background in geomorphology and paleontology. Our office will assist in locating qualified personnel if such assistance is necessary.

Sincerely,

Robert A. Alex

Robert A. Alex, Chief
Archaeological Survey

RAA:pah

WASHINGTON STATE
HIGHWAY COMMISSION
DEPARTMENT OF HIGHWAYS

Highway Administration Building
Olympia, Washington 98504 (208) 753-8005

Washington State Highway Commission
Department Of Highways

Daniel J. Evans - Governor
G.H. Andrews - Director

October 24, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D. C. 20240

U. S. Department of Interior
Alaska Natural Gas Transportation
System
Draft Environmental Statement

Gentlemen:

We have reviewed the draft environmental impact statement for the Alaska Natural Gas Transportation System and have some concern about the projects' possible impacts on State highways. The capital investment in State highways must be protected, therefore, the following impacts must be considered:

1. The impact of increased traffic during project construction. Increased truck traffic and possible over-legal loads could have severe impacts on the structural integrity of the highway.
2. Construction of the pipeline under the highway, either by tunneling or ditching, could damage the subgrade of the highway and lead to settlement and/or drainage problems.
3. Traffic delays caused by pipeline construction will increase road user costs. Delays will also cause increased fuel usage and commit extra fuel resources to the project.
4. Costs incurred by this Department because of pipeline construction should be compensated by the pipeline project.

During the detailed design phase of the project, the above impacts must be considered. Early coordination with this Department during the design phase is essential in order to assess any adverse impacts. This coordination will also expose any problems and allow negotiation of an acceptable resolution for all parties concerned.

Any questions concerning the above comments should be directed to Mr. R. B. Davidson, Planning, Research and State Aid, Highway Administration Building; Olympia, Washington 98504.

Please forward one copy of the Final Environmental Impact Statement for Alaska Natural Gas Transportation System when the statement is completed.

Thank you for the opportunity to review this information.

Sincerely,

G. H. ANDREWS
Director of Highways

Russell Albert for

By: H. R. GOFF
Assistant Director for
Planning, Research and State Aid

HRG:eh
RA/RBD

cc: R. C. Schuster
W. R. Horning

EXECUTIVE DEPARTMENT

INTERGOVERNMENTAL RELATIONS DIVISION
~~LOCAL GOVERNMENT RELATIONS DIVISION~~

240 COTTAGE STREET S.E. • • • • SALEM, OREGON 97310

ROBERT W. STRAUB
GOVERNOR

STAFFORD HANSELL
Director

October 24, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D. C. 20240

Dear Mr. Koenings:

Re: Alaska Natural Gas Transportation System
PNRS #7508 4 220

The State Clearinghouse has received additional comments from the State Fish & Wildlife Department, Environmental Management Section, suggesting areas for improvement on the Alaska Natural Gas Transportation System draft Environmental Impact Statement subsequent to our October 23 letter. A copy of these comments is enclosed for your attention.

Please consider this letter and enclosure an addendum to our previous letter.

Sincerely,

William H. Young
Administrator

WHY:lh

encl

Oregon Department of Fish and Wildlife

Comments on

Alaska Natural Gas Transportation System
Draft Environmental Impact Statement
Part I - Vol. I, Part 4 - Vol. I & 2

Basically, the draft statement gives a good assessment of the impacts of the project on wildlife and of existing conditions. The following comments are general in nature. We concur with the U. S. Fish and Wildlife Service's detailed analysis of the draft statement which was submitted directly to the Bureau of Land Management.

1. Stream Crossings. Protection of water quality, streamside vegetation, fish spawning and rearing areas are of prime concern. The time of year construction occurs will strongly influence the impact on these parameters.

2. Loss of Wildlife Habitat. Widening of the existing right-of-way or clearing of a new one will remove vegetation utilized for food and cover by wildlife. Some of this loss could be offset by revegetation with plant species beneficial to wildlife. This department is available to recommend seed mixtures, time and rate of application.

3. Access. The existing right-of-way is readily accessible for much of its length. We do not favor creation of additional access roads because they remove land from production, lead to undue harrassment of wildlife and in some cases, may be detrimental to the quality of hunting and angling.

4. Wildlife Migrations. To our knowledge, the present right-of-way has no serious affect on wildlife migrations. The degree of impact is apparently related to the width of the right-of-way and percent of vegetative cover removed. If the existing right-of-way is broadened to any great extent, patches of cover such as trees should be provided to serve as travel lanes for migrating animals.

5. Spoil Disposal. Both excavated rock and vegetation which is removed (juniper, sagebrush, pine trees), could be placed in a manner to create habitat for small mammals and upland game birds. Rock and brush piles often provide good nesting sites, roosting sites, and escape cover.

6. Timing. Construction activities should be timed to avoid interference with wildlife during critical times of the year in key areas. Examples would include nesting seasons, wintering areas, fawning seasons, migration seasons and areas.

7. Rare and Endangered Wildlife. Care should be taken to avoid disturbance of rare and endangered wildlife and their habitat. An example would be an eagle nesting site.

EXECUTIVE DEPARTMENT

INTERGOVERNMENTAL RELATIONS DIVISION
[redacted]

240 COTTAGE STREET S.E. • • • • SALEM, OREGON 97310

ROBERT W. STRAUB
GOVERNOR

STAFFORD HANSELL
Director

October 23, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of Interior
Washington, D.C. 20240

Dear Mr. Koenings:

Re: Alaska Natural Gas Transportation System
PNRS # 7508 4 220

Thank you for submitting your draft Environmental Impact Statement for State of Oregon review and comment.

Your draft was referred to the appropriate state agencies. Governor Robert Straub's Office, Department of Land Conservation and Development, Division of State Lands, and Forestry Department offered the enclosed comments which should be addressed in preparation of your final Environmental Impact Statement.

We will expect to receive copies of the final statement as required by Council of Environmental Quality Guidelines.

Sincerely,

William H Young

William H. Young
Administrator

WHY:lm

Enclosures

FORESTRY DEPARTMENT

OFFICE OF STATE FORESTER

2600 STATE STREET • SALEM, OREGON • 97310 • Phone 378-2

OCT 10 1975

MEMORANDUM

TO: Intergovernmental Relations Division

FROM: Phil Brogan, Management Analyst

SUBJECT: Project No. 7508 4 220
Alaska Natural Gas Transportation System Draft EIS

DATE: October 8, 1975

We have previously written to Mr. Bill Vermeere, Department of Energy, regarding the concerns of this Department and of the Board of Forestry, as to the amounts of land being taken out of forest production by conversion to other uses. A copy of that letter is attached.

At this time we would like to make some suggestions and pose some questions about specific items in the draft EIS.

On Page IV-74, regarding brush, grass or other vegetative fires. We suggest that "Federal, State and local fire fighting organizations" be substituted for "Local fire departments" as having the equipment and training to fight these fires.

On Page IV-75, Table 1.1.4.7-1. We suggest the heading be changed to "Fire Organizations" and, under Oregon, add Oregon Forestry Department offices at Gilchrist and Klamath Falls, Oregon.

On Page IV-410, Figure 2.1.4.9-9. What do the 1/, 2/, 3/ and 4/ indicators refer to? What are the "Blue" and "Value" factors? Are the acreages new rights-of-way that will be taken out of production or does it include present rights-of-way? Why are the acreages for forest land different than the acreages stated on Pages IV-561 and IV-787?

On Page IV-420, "Figure 2.1.4.11-1. What are the units under "Land Use of Right-of-Way? (Miles?) What is the significance of two figures for each region?

TO: Intergovernmental Relations Division
FROM: Phil Brogan
DATE: October 8, 1975

On Page IV-808, "Vegetation now occupying the proposed right-of-way includes --- and mature timber stands."

Is it the intent to say that all trees on the proposed right-of-way are mature? We would suspect that the stands are a mixture of various sized, ages and species of trees. If so, it would be more accurate to just use the word "timber" rather than "mature timber stands".

We would like to see the EIS clarified to indicate the acreage and value of lands that will be taken out of forest production by the proposed pipeline. The value of merchantable timber that will be harvested, and the value of unmerchantable timber that will be wasted should be stated. It would be useful to have this information separately for Forest Service, B.L.M. and private land.

PDB:nep
Attachment

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE
Intergovernmental ~~Local Government~~ Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
AUG 14 1975
SALEM

LOCAL GOVERNMENT RELATIONS
OCT 14 1975

PNRS STATE REVIEW

Project #: 7508 4 220 Return Date: 10/10/75

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

☐ This project does not have significant environmental impact.

☐ The environmental impact is adequately described.

☒ We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

☐ No comment.

REMARKS

The site location phase of this project must be coordinated with local land use plans as well as the identification of any short term community impacts during the construction phase.

It appears that the EIS fails to discuss the possibility of utilizing the existing PGE 36 inch pipeline constructed in 1961. It seems utilization of portions of this right of way would minimize adverse impacts on agricultural and forest land and environmental quality.

The statewide goals of areas subject to natural Disasters and hazards should be examined in relation to known geologically active structures crossed by the pipeline.

Agency LCDC at 10 By

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE
Intergovernmental ~~Local Government~~ Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

PNRS STATE REVIEW

Project #: 7508 4 220 Return Date: Oct. 10, 1975

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

☐ This project does not have significant environmental impact.

☐ The environmental impact is adequately described.

☒ We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

☐ No comment.

REMARKS

No justification for the use of two pipelines and two pipeline routes is shown by this draft EIS. We strongly urge that the environmental impacts in Oregon be minimized by allowing only the Central Oregon (PG&E) pipeline which can carry the requisite quantity of natural gas according to the alternatives section of the EIS.

Impacts from construction which affects the John Day River Wild and Scenic River system, the Oregon Trail, known and unknown historic sites, and other river crossings are not adequately mitigated. The matter of blowdown noise at compressor stations is subject to further consideration by DEQ. The matter of water discharge from hydrostatic testing is also subject to concerns of DEQ, Fish and Wildlife, and Board of Health.

The analysis of alternative sources of energy takes an all-the-eggs-in-one-basket approach to solving an energy shortage problem. The assertion that no alternative source of energy could supply enough BTUs to meet the needs is dangerously double-edged; a pipeline break of a 6280 mile long pipeline is a relatively high order of probability, and secondly, only two pages are used to explain that combinations of alternative sources are difficult to forecast. Such a forecast is, we feel, mandated by NEPA and must be included in the final EIS.

Agency Lands By

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM 97310

ROBERT W. STRAUB
GOVERNOR

September 29, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of Interior
Washington, D.C. 20240

Dear Mr. Koenings:

Thank you for submitting the draft Environmental Impact Statement (EIS) for the Alaska Natural Gas Transportation System for our review. The draft was referred to the appropriate state agencies and their comments are enclosed to assist your staff in the preparation of the final report.

The Department of Energy is currently reviewing the draft EIS and at such time as the plan comes to fruition will require the applicant to apply for a site certificate.

Excerpts from agency comments:

1) The State of Oregon passed legislation in the form of Senate Bill 483 during the 1975 Legislature that provides for comprehensive state in energy planning, distribution and utilization. In so doing, the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with the protection of the public health and safety.

Pipelines that are sixteen inches or greater in diameter, and five miles or longer in length used for the transportation of natural or synthetic gas are described as energy facilities. Energy facilities are required to receive a site certificate from the Energy Facility Siting Council of Oregon. The Council acting as a one-stop siting authority has 12 months to review the certificate application prior to submitting its conclusions and/or approvals. The draft EIS does not discuss this requirement but the final EIS should take cognizance of this siting requirement.

2) The draft EIS does not document the necessity for two pipeline corridors through Oregon to the southern terminuses. It is apparent that the pipeline leading westward from Caroline Junction, Alberta is a 42-inch pipeline which is the same sized pipeline as proposed by Pacific Gas Transmission Company (PGT) to continue from the bifurcation at Kingsgate, British Columbia south to Antioch, California. This route parallels an existing 36-inch line except for a 21 mile detour.

The Interstate Transmission Associates and Southern California Gas Company route from the bifurcation at Kingsgate to Cajon, California, would be a duplication of service lines though of smaller size. Currently, there is an existing interconnection between the Cajon location and Antioch location.

Review of data provided in the draft EIS established that either use of or widening of an existing right-of-way appears to be the most beneficial and least damaging to the ecology of Oregon.

3) The draft EIS fails to discuss the existing 36-inch pipeline constructed by PGT in 1961. The final EIS should provide data on the existing corridor referencing problems and mitigation that have been experienced in the past 14 years. The line is still quite evident and may be traced the length of the State by aerial survey.

4) Construction activity will affect the Oregon trail, the John Day River, known and unknown historic sites, Lava tubes on the west flank of Newberry Crater, and other river crossings. The impacts on these areas of interest should be discussed in detail.

5) The State Department of Environmental Quality (DEQ) is concerned that construction activities be conducted in a manner to minimize impacts on air quality, water quality, solid waste disposal and noise. In particular the DEQ is concerned that plans be formulated relative to safeguarding environmental quality of streams from turbidity, oils, etc during construction.

6) Some off-site material barrow sources may be required. Each off-site source will be required to have a State Surface Mining Permit and approved reclamation plans prior to the onset of any excavation or site preparation. Off-site barrow sources for any access road construction in connection with the pipeline will require Surface Mining Permits and reclamation plans and will not be considered exempt as true "access road pits" as defined by ORS 517.750 (11))

7) Off-site disposal of spoils should be coordinated with the State Department of Geology and Mineral Industries to maximize reclamation of orphaned or abandoned surface mine sites in the area. The State Highway Division proposes three exhausted site for material waste:

a) M.P. 29.2, John Day Highway. Possible 0.25 acres could be filled 12 feet deep.
b) M.P. 66.3, Sherman Highway. Possible 0.75 acres could be filled 15 feet deep.
c) M.P. 167.3, The Dalles-California Highway. Possible 12.0 acres could be filled 10 feet deep.

8) Tentative construction schedule should be provided to allow coordination of other large construction activities with related heavy traffic volumes and the movement of heavy equipment. The Highway Division should be appraised of locations where pipeline construction equipment will gain access or exit along the State system.

9) The evaluation of alternate sources and alternate routes does not present a cost-benefit analysis of the available alternatives. An analysis should show the relative cost differential between the proposed land lines and the LNG transportation system. Important to this discussion should be the inclusion of material similar to the Alaska Natural Gas Transportation Systems Economic and Risk Analysis Conclusions and Results, June 1975, Draft.

10) The State Forestry Department and Board of Forestry are concerned with the amount of forest land being taken out of production by housing sub-divisions, easements for power lines, roads, gas pipelines and other projects. While each project individually may not greatly affect the forest land base, collectively over a period of time, they create a major impact on Oregon's forest industry.

It is difficult to ascertain the amount of timber removed from productive capacity. Figure 2.1.4.9-9 indicates that 1583 acres of timber is to be affected while other sections of the report indicate that only 1000 acres of timber land is to be affected along the 917 miles of pipeline between Kingsgate and Antioch. Clarification of this discrepancy will facilitate Department of Forestry activities.

11) Prior to construction of the massive project in the conterminous 48 states, it appears necessary that the United States establish exactly what surplus gas Canada will have available for export. It is anticipated in the draft EIS that after 5 years of operation the Alaskan fields will provide 2.25 MMcfd but the proposed pipeline will have the capacity of an additional 3.65 MMcfd dependent on the economic and productive mood of Canada. If Canada is not going to provide large gas supplies for export, the construction of oversize facilities will impose an unnecessary expense on rate payers.

12) The draft EIS does not discuss "The Mackenzie Valley Pipeline Inquiry" being conducted by Mr. Justice Berger to investigate the social, economic and environmental effects of the Canadian Artic Gas proposal on the native people. Hearings were started in March of 1975 and it is anticipated that at least a year will pass before a final report will be available. Disapproval of this portion of the route may have a significant impact on the timing of construction in the United States and possibly on the final route. With such a sensitive portion of the route not defined, we find that discussion of the northern route is premature.

13) Details on the ability of the Canadian Federal Government and local Provincial governments to attach discriminatory taxation or nationalization of pipelines have not been adequately presented. This could result in the rate payers of the United States paying excessive fuel rates based not only on the Canadian Governments attempt at taxation to meet OPEC energy cost levels but also local Provincial needs to increase their funding. Types of taxation that are possibly to apply on a line going through Canada are income taxes, gross receipt taxes, import taxes, export taxes, license taxes, sales taxes, transit taxes and real estate taxes.

I wish, in addition, to take this opportunity to state that based upon our study, the Trans-Alaskan shipment of natural gas, with subsequent LNG transport, is the preferred means of transporting the gas and minimizing environmental impact.

Sincerely,

Bob Straub

Governor Robert W. Straub
STATE OF OREGON

bh
Enclosures

cc: Department of Energy
Division of State Lands
Department of Geology and Mineral Industries
Department of Transportation
Department of Fish and Wildlife
Department of Environmental Quality

OREGON STATE HIGHWAY DIVISION

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

RECEIVED
SEP 1 2 1975
DEPT. OF ENERGY

September 11, 1975

Department of Energy
528 Cottage Street N.E.
Salem, OR 97310

Attention Mr. W. R. Vermeere

Re: Alaska Natural Gas Transportation System

Dear Mr. Vermeere:

The State Highway Division has an interest and concern with the Alaska Natural Gas Transportation System crossing Oregon. Our major concerns lie with safety for the traveling public on state highways to be crossed by the pipeline and protection of those facilities. Coordination of the work is essential to assure that adequate signing, flagging and other traffic control measures are taken. Pipeline crossing permits are required for all locations where the lines cross state highway right-of-way.

Cursory examination of our available material sources near the pipeline indicates most contain useable material and shall be retained for that purpose. Three exhausted sites for material waste are located as follows:

1. M.P. 29.2, John Day Highway. Possible 0.25 acres could be filled 12 feet deep.
2. M.P. 66.3, Sherman Highway. Possible 0.75 acres could be filled 15 feet deep.
3. M.P. 167.3, The Dalles-California Highway. Possible 12.0 acres could be filled 10 feet deep.

Our Regional Engineers in Bend and La Grande should be contacted to assure that all appropriate measures are taken to maintain the safety and protection of the state highway system and its users.

Region Engineer's names, addresses and phone numbers are:

Carl M. Williams P. O. Box 1249 The Dalles-California Hwy. Bend, OR 97701 Phone: 503-382-1911	W. E. Schwartz 2111 Adams Avenue P. O. Box 850 La Grande, OR 97850 Phone: 503-963-3177

The opportunity to comment on the Draft EIS for the Alaska Natural Gas Transportation System is appreciated.

Very truly yours,

G. W. Rulien
Project Management Engineer

Attachments

cc: E. S. Hunter
John Oakes
Carl Williams
W. E. Schwartz

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

FILE: ENV

La Grande, Oregon
August 19, 1975

FROM: W. E. Schwartz
Regional Engineer

SUBJECT: Environmental Impact Statement
Natural Gas Pipelines

TO: John Oakes
Assistant R/W Engineer

There are exhausted quarries and gravel pits along the general pipeline routes shown on the exhibit maps. Only a portion of these sites are owned by the State of Oregon. The vast majority of material sites in Eastern Oregon are owned by various agencies of the Federal Government. In these sites we have only a mineral right or occupy the site on a material lease.

A good deal more information would be needed before we could agree that the area would benefit by having waste material deposited at old material sites. If the waste material were covered with topsoil, contoured to the shape of the original ground, and seeded, this would probably be a benefit. If the waste material were disposed of in any other manner, there would probably be no benefit.

WES:sh

cc Carl Williams

RECEIVED

SEP - 9 1975

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

FILE: PMT 12

Bend, Oregon 97701
September 5, 1975

FROM: Carl M. Williams
Regional Engineer

SUBJECT: Natural Gas Pipeline

TO: John Oakes
Asst. R/W Engineer

RE: Statement that material from pipeline could be wasted in exhausted quarries and gravel sites.

Most of state owned or controlled sites still contain useable material and shall be retained for that purpose.

There are three sites that are exhausted and available for waste purposes.

1. MP 29.2, John Day Highway
   Possible 0.25 acres could be filled 12-feet deep.
2. MP 66.3, Sherman Highway
   Possible 0.75 acres could be filled 15' deep.
3. MP 167.8, The Dalles-California Highway
   Possible 12 acres could be filled 10-feet deep.

CMW:mr

enclosure

RECEIVED
1975

SEP - 9 1975

DEPARTMENT OF
GEOLOGY AND MINERAL INDUSTRIES

ADMINISTRATIVE OFFICE

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Ph. (503) 229-5580

ROBERT W. STRAUB
GOVERNOR

September 18, 1975

Mr. William Vermeere
State Department of Energy
528 Cottage Street
Salem, Oregon

Dear Bill:

Here are our comments on the proposed natural gas pipeline as described in the U.S. Department of Interior Alaska Natural Gas Transportation System Draft Environmental Impact Statement, Part IV, West Coast:

(1) On the basis of a quick review of the report, it would appear that there is no threat to any of the mineral resources that might lie along the Oregon portion of the right-of-way, and it is entirely possible that the excavation of the ditch for the pipeline might uncover something of geological value.

(2) An excavation of this magnitude and length is bound to transect a wide variety of soils and rock formations having varied engineering characteristics. Furthermore, the excavation will be located on surfaces that range from flat to steeply inclined, that are nearly dry or thoroughly saturated, and that are composed of solid rock, angular fragments or deeply weathered sequences of bentonitic type clays. Stream crossings, fault zones, and landslide areas create other problems. Clearly no simple, generalized assessment can be made of: (1) the impact of the proposed pipeline excavation, (2) the disposition of spoils, and (3) the geologic hazards to which the pipeline would be subjected over the years.

(3) Very probably there will be long stretches of the excavation which will pose very few problems from either an environmental or engineering standpoint. There will be, however, certain sections of the project which will require the most careful geologic study. The identification of these areas, which if improperly handled, could possibly cause excessive stream siltation, sheet runoff, landsliding or subsidence, with possible rupture of the pipeline, can only be made after careful on-the-ground examination.

(4) The Department of Geology and Mineral Industries is prepared and equipped to make a detailed examination of the entire right-of-way and to identify those sections of it which would possibly be subject to greater than normal geologic hazards. It is estimated that this work could be accomplished in approximately two months' time at a cost of about $10,000.

Currently our field personnel are engaged in studies which will keep them occupied until spring 1976. We would like to be able to schedule this proposed study as soon as possible after this date so the field work could be completed as promptly as possible. Those portions paralleling surfaced roads and highways could be surveyed during periods of inclement weather but the more isolated sections would require good weather and with the ground free of snow.

Sincerely yours,

Raymond E. Corcoran
State Geologist

REC:jr

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: W. R. Vermeere, Environmental Specialist
Dept. of Energy, Siting Division

Date: September 10, 1975

From: E. J. Weathersbee, Director Technical Programs, DEQ

Subject: Alaska Natural Gas Transportation System
Draft EIS (W. R. Vermeere Memo of 9/8/75)

DEQ's primary interest in this project is to insure that construction activities would be conducted so as to minimize impacts on air quality, water quality, solid waste disposal and noise. Care in construction of stream crossings has been the major item of concern with similar projects in the past.

We will be unable to attend the September 12 meeting in Salem, but would want to see general and/or special plan specifications relative to safeguarding environmental quality (principally prevention of turbidity, oils, etc., in streams) during construction.

cc: Glen Carter

EJW

RECEIVED
SEP 15 1975
E. F. S. C.

FORESTRY
DEPARTMENT

OFFICE OF STATE FORESTER

2600 STATE STREET • SALEM, OREGON • 97310 • Phone 378-2560

RECEIVED
SEP 22 1975
E. F. S. C.

September 19, 1975

Mr. Bill Vermeere, Environmental Specialist
Department of Energy, Siting Division
528 Cottage St.
Salem, OR 97310

Dear Mr. Vermeere:

Following are this Department's comments regarding the Alaska Natural Gas Transportation System Draft Environmental Impact Statement. Since you want only a "broad picture" review at this time, we are not commenting on several detail items. We will include our detailed comments when we reply to the State Clearinghouse.

Also, according to your instruction, we have confined our comments to the Kingsgate-San Francisco route.

The Board of Forestry and this Department are concerned with the amount of forest land being taken out of production by housing subdivisions, easements for power lines, roads and gas pipelines and other projects. While each project individually may not greatly affect the forest land base, collectively and over a period of time, they create a major impact on Oregon's forest industry.

Unlike agricultural crops, which can be grown over the underground pipelines within a year or two after installation, timber cannot be grown directly over the pipes, and it takes years to reestablish the stand over the remainder of the right-of-way. The years of growth of immature timber, removed for the project, is wasted. Even if reestablished, the trees may be removed for maintenance of the pipeline, or in this case, for the placement of another line.

From the forestry standpoint, we would prefer that these projects not be placed on forest land at all. If that is not possible, they should be designed and placed so as to have the least impact on forest production.

We have not been able to determine from the EIS exactly what the impact on forest lands will be. Figure 2.1.4.9-9 on page IV-410 indicates 1583 acres of forest land in Oregon is affected. That table

Mr. Bill Vermeere
September 19, 1975

also provides a value factor but an explanation of that factor is not provided.

The acreage stated in Figure 2.1.4.9-9 is not consistent with other statements in the EIS which indicate 1,000 acres of commercial forest land will be taken out of production along the entire 917 mile pipeline through all states.

We recommend that the EIS be more precise on the acreage and value of forest lands that will be taken out of production in Oregon.

Whatever the actual acreage of additional forest land that will be taken out of production by this project, it is apparent that less acreage will be involved by placing a parallel pipe to the existing pipe, compared to establishing another right-of-way in the same vicinity. We would urge the pipeline company to design the installation so as to do the least damage to existing timber stands and to allow as much area to return to a productive state as possible.

Only as much permanent easement should be obtained by the company as necessary to maintain the pipeline after it is installed. Temporary easements should be obtained on that additional area necessary for installing the pipeline. The temporary easement area should revert to the landowner after installation.

Please call us if we can be of any additional assistance.

Sincerely,

J. W. SCHROEDER, State Forester

By Philip D. Brogan
Philip D. Brogan
Management Analyst

PDB:nep

cc: Executive Staff
Mike Miller

STATE OF OREGON

INTEROFFICE MEMO

TO: W. R. Vermeer, Enviornmental Specialist
Department of Energy, Siting Division

DATE: September 17, 1975

FROM: Standley L. Ausmus, Administrator
Mined Land Reclamation
Department of Geology and Mineral Industries

SUBJECT: Alaska Natural Gas Transportation System, Draft E. I. S.

This is a preliminary statement of Departmental concerns in the siting of the porposed gas pipeline. These concerns are limited to those dealing with surface mining and natural resources associated with surface mining activities.

1. The preferred route should be along the existing right-of-way. A minimum of disturbance could be assured by restricting new right-of-way aquisition to that minimum required to lay the proposed line utilizing as much of the existing right-of-way as possible.

2. Some off-site material borrow sources will be required. Each off-site source will be required to have a State Surface Mining Permit and approved reclamation plan prior to the onset of any excavation or site preparation.

3. Each commercial material source must have a current Surface Mining Permit or Exemption Certificate. Failure of a commercial source to have such current permit or certificate could result in closure of that material source and thus adversly impact the pipe line project at that point.

4. Off-site borrow sources for any access road construction in connection with the pipeline will require Surface Mining Permits and reclamation plans and will not be considered exempt as true "access road pits" as defined by ORS 517.750 (11).

5. Off-site borrow sources for what ever purpose should be sited to make maximum use of available resources with minimal surface disturbance. The proliferation of small pits and quarries should be discouraged in favor of greater utilization of fewer sources. There may be exceptions to this in those instances where reclamation of a small site would be possible whereas that for a large site might be less effective. The Department should have the opportunity to examine all proposed borrow sites before approval is given for any.

6. Off-site disposal of spoils should be coordinated with the Department to maximize reclamation of orphaned or abandoned surface mine sites in the area.

W. R. Vermeer, Environmental Specialist
September 17, 1975
Page 2

In addition to these six comments it is our understanding that the State Geologist is submitting position statements for other areas of concern the Department of Geology has for this project.

Standley L. Ausmus
Standley L. Ausmus
Administrator
Mined Land Reclamation

STATE OF WEST VIRGINIA
OFFICE OF THE GOVERNOR
CHARLESTON 25305

ARCH A. MOORE, JR.
GOVERNOR

October 30, 1975

Mr. Roman H. Koenigs
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D. C. 20240

Re: Alaska Natural Gas Transportation System Draft Environmental Impact Statement Part 5, the Northern Border Proposal, Volumes 1, 2, and 3

Dear Mr. Koenigs:

After reviewing the comments submitted to me by the West Virginia Department of Natural Resources and various State and regional agencies concerning the draft environmental impact statement for the proposed Alaska Natural Gas Transportation System, I feel that the proposed route will not have any serious long-term effects on West Virginia's environment.

I would like to take this opportunity to compliment the task force on the preparation of the Draft Environmental Impact Statement, as it seems to be comprehensive and adequately covers the significant environmental factors. However, in West Virginia, each environmentally sensitive area, stream crossing, critical wildlife habitat component, or natural area has individual characteristics that should be taken into consideration before final design phase. I cannot emphasize the importance of judicious route selection and the proper coordination with the appropriate State agencies on a case by case basis concerning the necessary resource salvation measures.

In the preparation of your final Environmental Impact Statement, I urge you to consider the following specific comments.

(1) 1.1.3.6 Construction Procedures; 2. Road and Site Clearings, Pages V-077 to V-080 -- Stringent soil erosion and sedimentation controls are urged for road and right-of-way clearing and construction.

(2) 9. Specific Construction Techniques; (d) Stream Crossings, Pages V-092 to V-097 -- Recommend construction during low flow periods and expeditious completion once in stream activity has started. Excavated material removed from trenches should not be deposited in wetland areas or other high quality habitats.

(3) 1.1.3.8 Future Plans; 2. Site Restoration, Page V-132 -- Any natural rejuvenation of the pipeline right-of-way after initial construction could be negated by the proposed equipment salvage operations. It is thought that site restoration in the Eastern Broadleaf Forest Region could best be accomplished by letting Nature take her course through normal plant succession, rather than by disrupting existing vegetation on the right-of-ways, borrow areas, roads, etc.

(4) 2.1.3.5 Water Resources; A. Surface Waters; 3. Ohio River Basin; (c) West Virginia and Pennsylvania, Page V-544 -- Two West Virginia streams that will be crossed by the proposed pipeline are classified by the Department of Natural Resources as "High Quality Streams", the Ohio River and Buffalo Creek. High Quality Streams are those that offer significant and even irreplaceable fish, wildlife and recreational resources and their husbandry is of vital concern to this Department. Therefore, prior to construction, the project plans, sedimentation controls and possible mitigation measures should be coordinated with the Wildlife Resources Division.

(5) Figure 2.1.3.7-5; Pages V-689 and V-690 -- Reference made to olive sucker as a fish species of state concern to West Virginia is believed incorrect. The fish in question is probably the blue sucker (Cycleptus elongatus).

(6) A. Effects on Surface Water; 1. Increased Turbidity and Sediment Load; a. Causes of Increase, Page V-995 -- The statement "The impact of erosive runoff on receiving streams and impoundments will be effected more by the capacity of these bodies of water to transport sediment than by the quantities of soil released." is questionable and needs clarification. The solution

to soil erosion and sedimentation is not the rapid dispersal of suspended sediment and dissolved solids by fast flowing streams.

(7) b. Impacts of Increase; Page V-1000 -- It is extremely doubtful if a normal storm generates turbidity and sediment loads of the magnitude induced by a major in stream construction project.

(8) 4. Effects on Water Quality; c. Degradation from Spills, Dumps and Chemical Applications, Page V-1006 -- Only insecticides and herbicides registered by EPA and appropriate-state agencies should be authorized for application.

(9) 3.1.3.7 Wildlife -- The impact of the proposed pipeline on aquatic and terrestrial wildlife species in West Virginia appears to be adequately discussed by the DEIS. On page V-1109, reference was made to the tonguetied minnow (Exoglossum laurae) as possibly occurring in stream segments affected by construction. This species is known to occur in the Cheat River and possibly other high gradient tributaries of the Monongahela but is presumed not indigenous to Brooke County.

(10) The fact that the proposed pipeline route cuts across a proposed impoundment on Buffalo Creek above McKinleyville in Brooke County; thus, it would be possible that it would be necessary to go back and weight the pipeline against flotation.

In the light of this nation's growing shortage of natural gas, I would urge that you proceed with the construction of the Alaska Natural Gas Pipeline along the Northern Border route without further delay. However, serious consideration should be given to the transporting of natural gas and gasified coal from West Virginia and Eastern fields to supplement possible shortcomings of the estimated Alaskan natural gas reserves.

If I can be of further service to you in this matter, please do not hesitate in contacting me.

Sincerely,

Arch A. Moore Jr.
ARCH A. MOORE, JR.
GOVERNOR

AAMJr:ms

cc: Ira S. Latimer
Robert W. Wirgau

WEST VIRGINIA DEPARTMENT OF HIGHWAYS
1900 Washington Street, East
Charleston, West Virginia
25305

ARCH A. MOORE, JR.
GOVERNOR

WILLIAM S. RITCHIE,
COMMISSIONER

October 8, 1975

Mr. Robert W. Wirgau, Executive Director
B-H-J Metropolitan Planning Commission
814 Adams Street
Steubenville, Ohio 43952

Dear Mr. Wirgau:

Re: Alaska Natural Gas Transmission System Pipeline; Environmental Impact Statement

This is in reference to your notice of September 5, 1975 concerning the above designated subject.

Based upon the information available, we would assume that the subject pipeline would have no long-range adverse affect on the highway system in your region. We appreciate your advising the Department of this matter so that we could reply to it.

Should there be any questions, please advise us.

Very truly yours,

Joseph S. Jones
State Highway Engineer -
Construction

JSJ:Bp

STATE OF TENNESSEE
OFFICE OF URBAN AND FEDERAL AFFAIRS
SUITE 108 • PARKWAY TOWERS BUILDING • NASHVILLE 37219 • 615-741-2714

RAY BLANTON
Governor

WASHINGTON BUTLER, JR.
Director

October 24, 1975

EIS Task Force
Room 1538
Bureau of Land Management (302)
U. S. Department of Interior
18th & C Streets, N. W.
Washington, D. C. 20240

RE: Draft Environmental Impact Statement
Alaska Natural Gas Transportation System

Dear Sirs:

This office, as the officially designated State Clearinghouse, is conducting a review of the subject draft EIS which considers a proposal submitted by the Arctic Gas System.

Enclosed are pertinent comments submitted by the Tennessee Wildlife Resources Agency, the independent State agency responsible for protecting and maintaining fish and wildlife resources in Tennessee.

We appreciate the opportunity to review and comment on this proposal. We, or other reviewing authorities, may wish to comment further at a later time. If this office, as the State Clearinghouse, can be of further assistance, please feel free to contact us.

Sincerely,

H. G. Walters
(for) Stephen H. Norris
Grant Review Coordinator

SHN: mn

Enclosure

TENNESSEE WILDLIFE RESOURCES AGENCY
ELLINGTON AGRICULTURAL CENTER
P. O. BOX 40747
NASHVILLE, TENNESSEE 37204

HARVEY BRAY
ROY H. ANDERSON
GARY T. MYERS

October 23, 1975

Mr. Stephen H. Norris
Grant Review Coordinator
Office of Urban and Federal Affairs
Suite 108
Parkway Towers Building
Nashville, Tennessee 37219

Re: DEIS, Alaska Natural Gas Transportation System

Dear Mr. Norris:

The Tennessee Wildlife Resources Agency has reviewed the subject project proposal and submits the following relative comments.

As proposed, this project will impact the mid-continental waterfowl production areas, specifically the southern portion of the prime nesting area in the glaciated part of the Mined Grass Prairie Region in the Central and Mississippi Flyways. Many of the migratory waterfowl passing through or wintering in Tennessee originate in this valuable wildlife area. Past developments in the area have resulted in draining much of the wetlands, to the detriment of nesting waterfowl, and have thus increased substantially the value of the remaining areas for waterfowl.

TWRA would, therefore, strongly encourage the project planners to exert efforts to protect the following types of wildlife areas from detrimental impacts associated with project:

1. Wetlands, particularly those considered by local biologists as having or potentially having prime waterfowl production qualities.

2. Streams which are recognized as having a good potential for fish and fish food production areas.

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TWRA assumes that local fish and wildlife biologists are having an input into planning which considers migratory and non-migratory wildlife species. These comments are, therefore, primarily directed toward preserving the habitat of those species exhibiting migratory habits.

Sincerely,

Harvey Bray, Executive Director
Tennessee Wildlife Resources Agency

Larry E. Safley

Larry E. Safley, Environmental Planner
Planning & Environmental Resources Division

LES/ss

Illinois Environmental Protection Agency
Richard H. Briceland, Director
2200 Churchill Road, Springfield, Illinois 62706
Telephone:
217/782-5620

October 2, 1975

Mr. Roman Koenings, Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

The Agency has reviewed the Draft Environmental Impact Statement - Alaska Natural Gas Transportation System and offers the following comments regarding implementation effects in Illinois.

a) It is stated in the Environmental Impact Statement that a major pipeline rupture may result in the release of 100 million cubic feet or more of gas. The Agency must encourage the development, to the greatest extent practicable, of a system for emergency shut down (e.g. pressure activated block valves) to minimize such losses.

b) The compressor stations will produce certain air contaminants, most notably nitrogen oxides. Such stations will not likely cause violations of the National Ambient Air Quality Standards (NAAQS) in and of themselves. However, should compressor station locations be chosen in or near major population centers, their contribution to ambient air quality should be examined. The turbine compressors, as well as any incinerators at compressor sites, will require operating permits.

c) During the construction phase, significant air pollutant emissions may occur. The Agency must encourage the adoption of specific procedures to be employed during construction to prevent excessive air pollutant emissions.

d) The compressor stations are capable of producing noise effects, especially during periodic venting of high pressure gas. Every effort should be made to assure minimum adverse impacts, including location of stations distant from inhabited areas.

It appears that construction and operation of the pipeline will cause only minor disturbances of the environment. The project will be subject to established regulations which govern the construction and operations of pipelines. Should you have any questions on the above, please advise.

Sincerely,

Robert P. Clarke

Robert P. Clarke
Environmental Programs

RPC/ma

cc: Harlan Edmonds

Public Utilities Commission
STATE OF CALIFORNIA

ADDRESS ALL COMMUNICATIONS
TO THE COMMISSION
CALIFORNIA STATE BUILDING
SAN FRANCISCO, CALIFORNIA 94102
TELEPHONE: (415) 557-0558

FILE NO.

October 22, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

Re: Alaska Natural Gas Transportation System
Draft Environmental Impact Statement

Enclosed please find an original and ten copies of COMMENTS OF THE PEOPLE OF THE STATE OF CALIFORNIA AND THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT RELATING TO THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM. Ten copies of this document are being mailed concurrently herewith to the Council of Environmental Quality and to the Environmental Protection Agency. All parties on the service list in El Paso Alaska Company et al., FPC Docket No. CP75-96 et al. are also receiving a copy of the document.

Very truly yours,

Frederick E. John
Frederick E. John
Associate Counsel

FJ/cc

Enclosures

ORIGINAL

BEFORE THE UNITED STATES

DEPARTMENT OF THE INTERIOR

COMMENTS OF THE PEOPLE OF
THE STATE OF CALIFORNIA AND
THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA ON
THE DRAFT ENVIRONMENTAL IMPACT
STATEMENT RELATING TO THE
ALASKA NATURAL GAS TRANSPORTATION SYSTEM

RICHARD D. GRAVELLE
J. CALVIN SIMPSON
FREDERICK E. JOHN

5066 State Building
San Francisco, California 94102

Attorneys for the People of the
State of California and the Public
Utilities Commission of the State of
California

October 22, 1975

BEFORE THE UNITED STATES

DEPARTMENT OF THE INTERIOR

COMMENTS OF THE PEOPLE OF
THE STATE OF CALIFORNIA AND
THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA ON
THE DRAFT ENVIRONMENTAL IMPACT
STATEMENT RELATING TO THE
ALASKA NATURAL GAS TRANSPORTATION SYSTEM

The People of the State of California and the Public Utilities Commission of the State of California (California) hereby submit their comments on the Alaska Natural Gas Transportation System Draft Environmental Impact Statement (DEIS). California's comments will be restricted to relevant sections of Parts I (Overview), IV (West Coast) and VI (Alternatives) of the DEIS.

I.

THE NEED TO AVOID A DUPLICATION OF FACILITIES TO TRANSPORT NATURAL GAS FROM KINGSGATE TO CALIFORNIA

As the Department of Interior (DOI) is aware, the Federal Power Commission (FPC) is presently conducting hearings on mutually exclusive projects to transport natural gas reserves from the Prudhoe Bay field on the North Slope of Alaska to the lower 48 states. These consolidated proceedings before the FPC are entitled El Paso Alaska Company et al., Docket No. CP 75-96 et al. On April 3, 1975 California submitted an opening statement in the

El Paso Alaska proceedings wherein it referred to the separate pipeline projects being sponsored by Pacific Gas Transmission Company (PGT) and Interstate Transmission Associates (Arctic) (ITA(A)) to transport Alaskan and/or Canadian gas from the United States/Canadian border through Idaho, Washington, Oregon, Nevada and into California. In its opening statement before the FPC California questioned whether both pipelines were needed to carry the expected Alaskan and/or Canadian reserves to the above-specified states. At the time of California's opening statement relatively high expectations still existed that the northwestern and western states would receive natural gas reserves from the Mackenzie Delta area of Canada, assuming the Arctic Gas proposal was certificated. Based on these expectations the various Arctic Gas applicants[1] filed applications with both the FPC and DOI which provided for the transportation of large volumes of gas on a daily basis. However, recent actions by the National Energy Board of Canada (NEB), especially its report on Canadian natural gas supply and requirements through 1995, make it highly probable that no Mackenzie Delta reserves will enter the lower 48 states at the time the proposed Arctic Gas Transportation commences operation. Thus, subsequent to the issuance of the subject DEIS, the Arctic Gas applicants have filed alternative or amended proposals with the FPC, DOI and

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[1] Alaskan Arctic Gas Pipeline Company, Canadian Arctic Gas Pipeline Company, Ltd., PGT, ITA(A) and Northern Border Pipeline Company.

NEB which provide facilities to transport only Prudhoe Bay reserves into the lower 48 states. In light of these modifications California questions even more than before whether both the proposed PGT system and the ITA(A) system are in the public interest.

California submits that the DOI's Final Environmental Impact Statement (FEIS) should fully analyze the modifications proposed by PGT and ITA(A) before the FPC and DOI in order to determine which project warrants the issuance of permits to cross federal lands. These modifications are described infra. It is certainly in the public interest to avoid a duplication of facilities crossing federal lands.

II.

PGT'S PROPOSED FACILITIES

As PGT has indicated at the local hearings held by the DOI between September 25 and October 3, 1975 with respect to the subject DEIS, PGT presently has pending before the FPC several alternative designs to transport gas from Kingsgate to California. However, all of the proposed alternatives will parallel to some extent PGT's existing 36 inch pipeline system extending from Kingsgate to the Oregon-California border and the existing 36 inch pipeline system of Pacific Gas and Electric Company (PG&E) extending from the Oregon-California border to Antioch, California. While the FPC has jurisdiction over the expansion of PGT's facilities, the California Public Utilities Commission (CPUC) has jurisdiciton over any expansion of PG&E's facilities. At this point it should be noted that any expansion or modification of PGT's facilities will require complementary expansion or modification of PG&E's facilities within California.

The PGT proposal which is the subject of the DEIS herein provides for a 42-inch pipeline which would extend parallel to PGT's existing facilities and operate at a maximum operating pressure of 1440/1250 psig. This pipeline is designed to transport 1200 MMcf/d of gas. One alternative design contemplates a 36-inch pipeline operating at a maximum pressure of 1440/1250 psig. This design would transport 850 MMcf/d of gas.

A second alternative, the "1180" Design would consist of a partial "looping", i.e. partial paralleling of PGT's existing 36 inch pipeline. Under this alternative, PGT would construct a total of 319.6 miles of 36-inch pipeline loops at twelve locations.[2/]

2/ The twelve proposed pipeline loops for the "1180" Design would be located as follows:

length	location
7.9 miles	Boundary County, Idaho
29.6 miles	Boundary and Bonner Counties, Idaho
6.9 miles	Bonner County, Idaho
62.6 miles	Spokane and Whitman Counties, Washington Kootenai County, Idaho
8.9 miles	Whitman County, Washington
8.6 miles	Columbia and Walla Walla Counties, Washington
5.7 miles	Umantilla County, Oregon
35.4 miles	Umantilla and Morrow Counties, Oregon
60.4 miles	Gilliam, Wasco and Jefferson Counties, Oregon
43.9 miles	Deschutes and Klamath Counties Oregon
18.2 miles	Klamath County, Oregon
31.5 miles	Klamath County, Oregon

The pipeline loops would operate at a maximum pressure of 911 psig. The "1180" Design would allow PGT to transport and sell to PG&E an additional 200 MMcf/d of gas. According to PGT this is the approximate volume of Prudhoe Bay reserves that will be available to PG&E under a proposed gas purchase contract with Exxon Company, U.S.A. (Exxon).[3/]

A third alternative, the "1580" Design, encompasses the complete looping of PGT's existing pipeline facilities. This alternative requires the construction of 591.9 miles of 36-inch pipeline operating at a maximum pressure of 911 psig.[4/] The pipeline would transport 600 MMcf/d of gas in addition to the existing volumes transported by PGT. According to PGT the 600 MMcf/d of gas may be available in the future with additional exploration and development of reserves in Alaska and northern Canada. PGT claims that the "1580" Design can be expanded, with the addition of compression, to accomodate up to 1100 MMcf/d of gas.

3/ PG&E and Exxon have entered into an agreement whereby in return for PG&E's payment of interest on an imputed loan by Exxon, PG&E would have the exclusive right to negotiate for 30 percent of the natural gas reserves from Exxon's working interest in the Prudhoe Bay field. PG&E is seeking approval of the agreement from the California Public Utilities Commission (Application No. 55661). By Decision No. 85013, dated October 15, 1975, the CUPC removed PG&E's application from the CPUC's Public Agenda, until such time as the FPC clarifies its policies with respect to advance payments by interstate pipeline companies to Alaskan producers.

4/ The proposed facilities for the "1580" Design would be constructed in the Counties of Boundary, Bonner and Kootenai, in Idaho, the Counties of Spokane, Whitman, Columbia and Walla Walla in Washington, and the Counties of Umantilla, Morrow, Gilliam, Wasco, Jefferson, Crook, Deschutes and Klamath in Oregon.

III.

ITA(A)'S PROPOSED FACILITIES

The ITA(A) proposal upon which the DEIS focused its attention contemplated a pipeline extending 1119 miles from Kingsgate to Los Angeles. The initial 284 miles of pipeline from Kingsgate to Meacham, Oregon would consist of 36 inch O.D. pipe. The remaining 835 miles of pipeline extending from Meacham to Cajon, California would be 30-inch O.D. pipe. The entire pipeline would be designed for a maximum operating pressure of 1680 psig. The pipeline would transport approximately 1200 MMcf/d of gas from the Canadian border for distribution to customers in the western United States. Approximately 935 MMcf/d of gas would be delivered to Southern California Gas Company (SoCal) at the Nevada-California border. SoCal would then construct a 242 mile pipeline from the Nevada-California border near Oasis, California to Cajon, California where the gas would enter SoCal's existing facilities.[5/] Approximately 240 MMcf/d of gas would be delivered to Northwest Pipeline

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5/ SoCal would have to obtain approval of the CPUC to construct the pipeline within California. SoCal has not filed an application for a certificate of public convenience and necessity with the CPUC.

Corporation (Northwest) at Meacham, Oregon. These volumes would be distributed through Northwest's pipeline system to its customers in the northwestern and western United States.

On April 23, 1975 ITA(A) filed an alternative proposal before the FPC and DOI. This "Stanfield Alternative" contemplated the construction of a high pressure (1680 psig), 30-inch pipeline from Kingsgate to a point near Stanfield, Oregon, a distance of 277 miles. ITA(A) alleged that from Stanfield they could utilize existing pipeline transmission capacity or loop existing systems to transport their contract volumes of gas. The 30-inch pipeline would parallel PGT's existing 36-inch pipeline system and would have the capacity to transport at least 1200 MMcf/d of gas. The "Stanfield Alternative" would be extended to the Nevada-California border only if the volumes of gas moving to Stanfield exceeded 1200 MMcf/d.

At the recent DOI hearings referred to above, and at recent FPC hearings in the *El Paso Alaska* proceedings, ITA(A) stated its intention to file a new proposal which is a "modified Stanfield Alternative". The 277 mile, 30-inch pipeline from Kingsgate to Stanfield would be extended an additional 113 miles from Stanfield to Rye Valley, Oregon. The pipeline would operate at 1440 psig, instead of 1680 psig, to be compatible with the delivery pressure of the pipeline to be built by Canadian Arctic Pipeline Company, Ltd. to Kingsgate. The pipeline will initially carry 600 MMcf/d of gas. The portion of the pipeline extending from Kingsgate to Stanfield will parallel PGT's existing pipeline system. The portion of the line extending from Stanfield to Rye Valley will parallel Northwest's existing system.

ITA(A) estimates that 150 MMcf/d of gas will be delivered into Northwest's system at Spokane, Washington. These volumes are to be purchased by Northwest from Northwest Alaska Company (Northwest Alaska), an affiliate of Northwest. At the present time Northwest Alaska does not have any Prudhoe Bay or Mackenzie Delta reserves "committed" to it.

ITA(A) asserts that approximately 450 MMcf/d of gas would be delivered to SoCal through the expansion and reinforcement of existing pipeline systems.[6] 250 MMcf/d of the 450 MMcf/d to be delivered to SoCal would be delivered to PGT at Stanfield, Oregon for the ultimate delivery of such volumes to the southern California market. According to ITA(A), PGT is presently cooperating in the formulation of a transportation agreement so that such volumes will be delivered into the facilities of PG&E, an affiliate of PGT, for ultimate delivery to SoCal in southern California.

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[6] The CPUC has recently approved a funding agreement between SoCal and the Atlantic Richfield Company (ARCO) whereby in return for SoCal's payment of interest on a production payment loan to be obtained by ARCO, SoCal will receive exclusive rights to negotiate for 60% of the natural gas reserves from ARCO's working interest in the Prudhoe Bay field (CPUC Decision No. 84729; Application No. 55599). Based on rough estimates SoCal would receive between 400-450 MMcf/d of gas, if a gas purchase contract was executed with ARCO for these Prudhoe Bay reserves.

ITA(A) contends that the remaining 200 MMcf/d of the 450 MMcf/d to be delivered to SoCal would be delivered to Northwest's system at Rye Valley, Oregon for transportation to Ignacio, Colorado. These volumes would ultimately be transported to southern California through the existing system of El Paso Natural Gas Company (El Paso Natural).[7]

ITA(A) intends to show a maximum design capacity for its "modified Stanfield Alternative" of 1100 MMcf/d from Kingsgate to Rye Valley and from Rye Valley to a delivery point at Cajon, California. However, the maximum design is for informational purposes only and would be appropriate only if future additional volumes of gas become available, and existing facilities are not adequate to transport such additional volumes. At the local DOI hearings in Sacramento, California ITA(A) stated that SoCal

> "...will not make any applications for related new intrastate transmission pipeline facilities in California until natural gas volumes approaching 800 MMcf/d can be acquired from new sources which can utilize the ITA(A) system to Southern California."

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[7] According to ITA(A), El Paso Natural, PGT and Northwest are all cooperating and working out the details for the delivery of the above-specified volumes of gas to SoCal. These entities have agreed to provide the technical information necessary for the preparation of ITA(A)'s supplemental filing. The furnishing of this information by El Paso Natural does not constitute an endorsement of the Arctic Gas project.

IV.

PGT'S PROPOSALS WILL HAVE A LESS ADVERSE IMPACT ON THE ENVIRONMENT THAN ITA(A)'S PROPOSAL

A reasonable estimate of the gas supplies which will be available to PG&E and SoCal at the time gas begins to flow from Prudhoe Bay and Mackenzie Delta indicates that PG&E will receive approximately 200 MMcf/d of Alaskan gas, and SoCal will receive approximately 400-450 MMcf/d of Alaskan gas. Assuming Northwest Alaska is able to secure 150 MMcf/d of Alaskan gas for delivery into Northwest's system, approximately 800 MMcf/d of Alaskan gas would leave Kingsgate for delivery to the western portion of the United States. It is submitted that the recent report by the NEB on Canadian natural gas supply and requirements makes it very unlikely that any Mackenzie Delta gas will enter the United States in the early 1980's. Consequently, *DOI should make some analysis in its FEIS as to the effect of the NEB Report on the supply and requirement figures presently set forth in the DEIS*.

Based on a deliverability figure of 800 MMcf/d of Alaskan gas, California does not believe that the circumstances justify the issuance of permits for both PGT's system and ITA(A)'s system. Further, California's believes that the alternatives proposed by PGT and PG&E offer the more reasonable and less environmentally disruptive method of transporting the above-specified volumes of gas to the western portions of the United States. First, each of PGT-PG&E's above-described alternatives would use existing rights-of-way except for a relatively small section around the John Day River area in north central Oregon. The "1180" and "1580" alternatives would use existing compressor station properties and would utilize the existing 36 inch pipeline at various major river crossings. These alternative designs would also allow for expansion in progressive stages to conform to delivery requirements as additional gas supplies became available. Finally, the compatibility of design between PGT's existing facilities and its proposed facilities minimizes the reduction in throughput in the event of an outage on one of the pipelines.

On the other hand, even assuming the adoption of ITA(A)'s "modified Stanfield Alternative", without any extension of its facilities beyond Rye Valley, Oregon, ITA(A) would still need new rights-of-way covering 390 miles. PGT, on the other hand, would need new rights of way covering approximately 21.4 miles. The Mineral Lands Leasing Act of 1920, as amended in 1972, 30 USCA Section 185 (p) provides as follows:

> "In order to minimize adverse environmental impacts and the proliferation of separate rights-of-way across Federal lands, the utilization of rights-of-way in common shall be required to the extent practical..."

The adoption of ITA(A)'s "modified Stanfield Alternative" will not in any way lessen the need for PGT and PG&E to use existing and new rights of way in Idaho, Washington, Oregon and California to build their facilities. As stated above, ITA(A)'s "modified Stanfield Alternative" contemplates the use of PGT's facilities to transport 250 MMcf/d to SoCal's facilities in Southern California. To transport these volumes of gas, as well as PG&E's 200 MMcf/d, PGT would have to expand its facilities between Kingsgate and the Oregon-California border. PG&E would also have to modify its facilities within California to transport gas from Antioch to SoCal's distribution facilities in southern California. In this respect attention is called to page 7 of the FPC Staff's comments of September 29, 1975 on the subject DEIS:

> "The alternative discussion of the pipeline route from Antioch (San Francisco area) to Cajon (Los Angeles area), California through the San Joaquin Valley, as found on page IV-841, should be expanded to include a more detailed discussion of the route, particularly the fact that it makes maximum use of existing rights-of-way. It is the FPC's staff view that this alternative route would extend due south from Antioch Terminal to Brentwood Terminal where it would meet an existing 26-inch Standard Pacific Gas Line, Inc. (StanPac) pipeline right-of-way. The proposed route would follow along this StanPac right-of-way to Panoche Junction where it would pick up two 34-inch PG&E pipeline rights-of-way. The proposed route would follow the PG&E rights-of-way to Bakersfield where it would pick up a 34-inch Pacific Lighting Service Company (PLS) pipeline right-of-way which extends south-southeast to Quigley Canyon Station. Subsequent gas delivery to the Los Angeles area could then be made from Quigley Station. If it would be necessary to hook up the proposed pipeline to Cajon, the route could continue on from Quigley Station and follow an existing PLS 30-inch pipeline right-of-way to the Cajon area."

It should also be noted that the future gas supply shortages within southern California may necessitate the transportation of natural gas from northern California to southern California even before Alaskan gas begins to flow to the lower 48 states. Sufficient interconnections currently exist to accomodate such an exigency. (see CPUC Case No. 9642).

It is submitted that the expansion of the existing PGT-PG&E system by looping and the addition of compression could easily accommodate the reasonably expected volumes of gas to be delivered to PG&E, SoCal and Northwest. At the present time PGT's existing line transports up to 152 MMcf/d of gas for Northwest to 20 delivery points in Idaho, Washington and

Oregon.[8] The present line could be looped to accommodate the 150 MMcf/d of Alaskan gas to be received by Northwest from Northwest Alaska. It should also be noted that the Canadian export permits for the 152 MMcf/d of gas presently transported by PGT to Northwest expire in 1981. Based on present Canadian forecasts of supply and requirements, there is a definite possibility that these permits would not be renewed. If this occurs, there would be idle capacity in PGT's existing line which could be filled by Northwest's Alaska gas.

Again, PGT and PG&E could transport SoCal's 400-450 MMcf/d of gas and PGT's 200 MMcf/d of gas by looping and by the addition of compression. As PGT has stated, its "1580" Design can be expanded, with the addition of compression, to accommodate up to 1100 MMcf/d of gas.

Finally, PGT has the experience in the territorial areas involved herein and can draw upon this experience to assure that the facilities to be built from Idaho extending through California will have as little adverse environmental impact as possible.

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[8] At pages 6 and 7 of Volume IV of the DEIS reference is made to deliveries by PGT to El Paso Natural Gas Company. The system previously owned by El Paso is presently owned by Northwest Pipeline Corporation.

III.

THE ALTERNATIVE TRANSPORTATION SYSTEM PROPOSED BY EL PASO ALASKA COMPANY

The DEIS presents a somewhat abbreviated analysis of the major alternative system proposed by El Paso Alaska Company (El Paso Alaska) and Western LNG Terminal Company (Western Terminal) to transport Prudhoe Bay reserves to the lower 48 states (Volume VI, Section 8.2). Since El Paso Alaska has not filed any applications with DOI for right-of-way permits, DOI apparently considers itself under no obligation to make as detailed an analysis of the El Paso Alaska project as it made for the Arctic Gas project. The FPC staff recently announced its intention to adopt partially DOI's DEIS for the Arctic Gas system and to conduct its own environmental analysis of the proposals sponsored by El Paso Alaska and Western Terminal. Based on recent testimony before the FPC in the El Paso Alaska proceeding, the FPC staff hopes to issue its DEIS sometime in November, 1975.

At the present time California has made no determination whether the Arctic Gas system is preferable to the El Paso Alaska system or vice versa from an environmental or safety standpoint. California will await the FPC staff's detailed environmental analysis of the El Paso Alaska and Western Terminal proposals before making any conclusions as to which of the competing proposals is less disruptive to the environment. In addition, California urges that DOI postpone the issuance of its FEIS, until it has analyzed the FPC staff's DEIS with respect to the El Paso Alaska and Western Terminal projects and the comments of the interested parties on the FPC staff's DEIS.

CONCLUSION

California respectfully requests that the DOI give careful attention to the comments submitted herein, as well as to the comments of other parties and the FPC staff's DEIS with respect to the El Paso Alaska proceeding, in preparing its FEIS on the Alaska Natural Gas Transportation System.

Respectfully submitted,

Richard D. Gravelle

J. Calvin Simpson

Frederick E. John

Attorneys for the People of
the State of California and
the Public Utilities Commission
of the State of California

October 22, 1975

STATE OF IOWA
Office for Planning and Programming
523 East 12th Street, Des Moines, Iowa 50319 Telephone 515/281-3711

ROBERT D. RAY
Governor
ROBERT F. TYSON
Director

September 17, 1975

Roman H. Koenings
Project Manager, EIS
Task Force
Alaska Natural Gas
Transportation System
U.S. Dept. of Interior
Bureau of Land Management
Washington, D.C. 20240

PNRS Number 760151
Draft Environmental Impact Statement
Alaska Natural Gas Transportation System

Dear Mr. Koenings:

The Notification of Intent describing the above-numbered project has been distributed to those State agencies which may have had an interest in it. Any comments or suggestions concerning this Step I, Facilities' Planning Grant are attached hereto.

As no objections were received from State agencies, the State Clearinghouse has completed its review of the proposal. A copy of the attached sign-off form and these comments should accompany the application to the EPA to indicate that the required review was accomplished.

This review, however, covers only Step I of the proposed construction. Separate reviews will be necessary for Step II and any other steps which may be taken on this project in the future.

Sincerely,

A. Thomas Wallace
A. Thomas Wallace
Federal Funds Coordinator

ATW/pc

Enclosure

STATE OF IOWA
Office for Planning and Programming
523 East 12th Street, Des Moines, Iowa 50319 Telephone 515/281-3711

ROBERT D. RAY
Governor
ROBERT F. TYSON
Director

STATE CLEARINGHOUSE

PROJECT NOTIFICATION AND REVIEW SIGNOFF

Date Received: July 28, 1975 State Identification No: 760151

Review Completed: September 25, 1975

APPLICANT PROJECT TITLE:
Draft Environmental Impact Statement, Alaska Natural Gas Transportation System

APPLICANT AGENCY: U.S. Department of the Interior Roman H. Koenings, Project Manager
Address Bureau of Land Management
Washington, D.C. 20240

FEDERAL PROGRAM TITLE, AGENCY AND CATALOG NUMBER: Public Lands for Rights-of-Way
Department of the Interior
Bureau of Land Management
Catalog No. 15.203

AMOUNT OF FUNDS REQUESTED: NA

PROJECT DESCRIPTION:
The project includes the Department of the Interior's Draft Environmental Impact Statement on the Alaska Natural Gas Transportation System.

The State Clearinghouse makes the following disposition concerning this application:

☒ No Comment Necessary. The application must be submitted as received by the Clearinghouse with this form attached as evidence that the required review has been performed.

☐ Comments are attached. The application must be submitted with this form plus the attached comments as evidence that the required review has been performed.

STATE CLEARINGHOUSE COMMENTS:

The State Clearinghouse recommends the approval of this project.

SOUTH Dakota
Department of Game, Fish and Parks
Pierre, South Dakota 57501 · Phone 224-3387

Division of Administration

October 31, 1975

Environmental Impact Statement Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, DC 20240

RE: Draft Environmental Impact Statement
Alaska Natural Gas Transportation System

Gentlemen:

As a general statement it is felt by this Department the Draft Environmental Statement has addressed the identifiable problems. The recommendations presented seem to be of a nature that would offset or minimize the adverse effects such a transport system would have on recreational and wildlife values and the countryside in general.

Since the exact route of the pipeline is yet to be determined, we cannot be overly precise in estimating the potential losses and offsetting mitigation measures that would ultimately be required. We would expect an option to provide for additional corrective action, if the general recommendations presented fail to provide solutions to specific environmental problems on the route.

The Department staff has made special note of several items of the DES. They follow.

V-1070 lines 5-15:	The sealing of wetlands and potholes traversed is of paramount importance. We would insist that the seal be restored and that any lost values be replaced as per V-1326-2.
I-372 para 2: V-999 para 5:	The hydrostatic testing of the pipeline requires a considerable volume of water and possesses a potential threat to aquatics and wetland wildlife if in meeting this demand local water tables, flows or reserve in impoundments are over taxed.

The several factors related to discharges of the fluid upon completion of the test must be addressed so as to protect against contamination of the natural resources. The increased scouring of the receiving stream should be held to a minimum by controlled releases.

V-971-c, V-1275-1284:	The 182 mile corridor crossing northeastern South Dakota will pose many erosion problems. We are particulary concerned and will insist that ditch erosion, stream crossing, top soil and revegetation all be handled in a manner that will not cause any degradation of the environment.
V-1237 para 2, V-1326-2, V-1397 b:	Compressor stations that are located near waterfowl and wildlife areas will have to be muffled to levels that are tolerable by hunters and waterfowl using the area. Any reduced public and waterfowl usage resulting from operating compressors would need to be replaced as per V-1326-2.
V-1224-1227:	Nitrogen oxides emitted from compressor stations may be adversely significant on aquatics and small mammals. An effort to monitor this within the six mile radius of NO_x influence should become part of the project.
V-1261-3:	Aerial survey of the line at time of high waterfowl concentration should be avoided. The danger here is more to the surveyor than to the flock. Two potential problems exist: a. A low flying plane disturbs waterfowl and those who are in the act of hunting them. Some irrational hunters shoot at planes. b. Waterfowl colliding with aircraft can actually bring them down.

Where state or local wildlife or recreation areas are determined by the managing agency to have losses from pipeline construction or operation, to the purpose for which the land was acquired, additional land should be acquired and developed

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by the applicant and title transferred to the managing agency. Acceptability of the compensation land to be agreed by the managing agency.

Sincerely,

DEPARTMENT OF GAME, FISH AND PARKS
John Popowski, Secretary

by: Lloyd F. Thompson

Lloyd F. Thompson
Deputy Secretary

LFT:lil

CC: Art Wilner
State Planning Bureau

Rolf Wallenstrom
U. S. Fish and Wildlife Service

ALEXANDER, NORTH DAKOTA

OCTOBER,20, 1975

BUREAU OF LAND MANAGEMENT

U.S.Dept. of Interior

WASHINGTON, D.C.

Dear Sirs;

We,the undersigned supervisors of CHARBON TOWNSHIP,fully subscribe to the policy adopted by the WILLISTON BASIN R.C.&D. as pertaining to the ALASKAN NATURAL GAS TRANSPORT SYSTEM.

YOURS TRULY,

John Mrachek

Floyd Papineau

Raymond Mrachek

Simpson, Clerk.

East
Central
Oregon
Association of
Counties
116 S. MAIN Rm 15 TEL 276-6732
PENDLETON, OREGON 97801

October 20, 1975

Mr. Roman H. Koenings
Project Manager - EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management
U.S. Dept. of the Interior
Washington, D.C. 20240

RE: State of Oregon, Counties of Gilliam, Morrow & Umatilla

Dear Mr. Koenings:

We would like to submit comments regarding the proposed Alaska Natural Gas Transmission System routes as outlined in the environmental impact statement completed by the U.S. Department of the Interior. Since receiving the draft, several conflicting reports have surfaced as to the present status of the two pipeline routes. Not knowing whether the two routes will be constructed, we would still like to submit the following comments to be considered if the routes are to be proposed in the future.

1. Soil Erosion - The area stretching west from Juniper Canyon in Umatilla County to the Buttercreek area in Morrow County is very susceptible to soil erosion. The combination of sandy soil, relatively barren land and a predominant westerly wind contributes to the problem - particularly in the area west of the Umatilla-Morrow County line. Once the wind erosion begins, the size of the impact area will continue to grow. In the Juniper Canyon area where the soil depth is very shallow, soil erosion will result in the loss of vegetation. Because of the severity of the problem, extreme measures should be taken to remedy the impact. An alternative would be some kind of Reclamation Plan that would replace vegetation lost during construction.

2. Critical Ground Water Levels - The State Water Resource Board has identified the Ordinance - Buttercreek Areas as those containing critical ground water levels. That water supply could be endangered if the shallow basalt layer was fractured during construction.

3. Flood Area - There have been frequent floods of Willow Creek in the past and there is every reason to expect floods to reoccur in the future. The potential impact to the pipe could be lessened by the construction of a dam on Willow Creek or other flood control methods.

4. Waste Disposal - Construction wastes in the magnitude projected in the impact statement cannot be met through existing landfills.

5. Road Maintenance - Heavy truck traffic during construction would take a heavy toll on the roads, with the cost of road maintenance to be borne by the county.

6. Community Impact - Small communities such as Ione in Morrow County will be heavily impacted by the labor force. These communities do not have an adequate base to assimilate these people and the attendant problems. Municipal facilities and services in most cases do not have the capacity to handle the influx of people into the community. Such a tax on existing public facilities and services will likely be felt in the private sector as well. However, because of the temporary nature of the problem, the private sector will be able to respond more effectively and efficiently, than will the public sector.

Sincerely yours,

David E Bishop
David Bishop
Umatilla County
Planning Director

David R. Moon
David Moon
Morrow County Planner

Peter Barker
Pete Barker
Gilliam County Planner

James R. Stephenson
James R. Stephenson
Physical Planner
East Central Oregon
Association of Counties

STATE OF IDAHO
DEPARTMENT OF FISH AND GAME
REGION 1
2320 GOVERNMENT WAY
COEUR d'ALENE, IDAHO 83814

September 4, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
US Department of the Interior
Washington, DC 20240

Dear Sir:

Regarding: Alaska Natural Gas Transportation System

Field personnel of Region 1 of the Idaho Department of Fish and Game have reviewed the Alaska Natural Gas Transportation System Draft Environmental Impact Statement, Part IV, West Coast Volumes 3 and 4.

In regards to clearings created by the pipeline corridor, big game will be attracted to these areas as vegetation becomes re-established. It is anticipated that vehicle collisions with game animals will increase where the pipeline corridor closely parallels highways. Provisions should be made to erect suitable fences or to sterilize the soil to prevent vegetative establishment and growth at selected locations.

Fishery comments are as follows:

A) Route alternative to Moyie River should be selected adjacent to Highway 95 corridor to minimize stream crossings.

B) Stream crossings should be buried deeply enough in entire flood plain to prevent scouring and exposure due to channel changes.

C) Mitigating measures need to be strengthened by changing language (beginning on Page IV-1880):

1) Passage of Fish

a) Uninterrupted movement and safe passage shall be assured ...will provide for fish passage.

EIS Task Force
Page 2
September 4, 1975

b) Pump intakes shall be screened.

c) Intake rates will minimize impingement of aquatic life.

d) Abandoned diversions will be plugged...

e) Material sites should not be approved in lakes, rivers, or streams.

f) Culverts will be installed to provide for fish passage when necessary (consult with Regional Fishery Manager).

2) Fish Spawning Areas and Other Fish Habitat.

a) Channel changes will be avoided.

b) Fish spawning areas will be protected. Work which would cause unavoidable sedimentation of spawning gravels will be conducted only after game fish fry have emerged (contact Regional Fishery Manager regarding timing).

c) Crossings will be avoided during spawning periods unless completely impractical.

3) Fisheries

The state responsible for any fishery or wildlife resource damaged as a result of pipeline breaks shall receive restitution adequate to replace the recreation base lost.

D) The list of adverse Effects Which Cannot Be Avoided (Page IV-1953) could be reduced by the above changes. Specifically, siltation of fish embryos and fry should be eliminated by proper timing of work which would result in significant turbidity and sedimentation downstream, stream blockages to fish migration should not occur during important spawning runs, and blasting in streams can also be timed to have minimal impacts.

Thank you for providing us the opportunity to make these comments.

Sincerely,

DEPARTMENT OF FISH AND GAME
Joseph C. Greenley, Director

David S. Neider
David S. Neider, Regional Supervisor
Region 1

cc Bureau of Environmental Services
Bureau of Fisheries

mid-ohio regional planning commission
514 SOUTH HIGH STREET • COLUMBUS, OHIO 43215 • PHONE (614) 228-2663
Chairman: Warren J. Cremean
Director: William C. Habig

TO: Mr. Roman H. Koenings, Project Manager
EIS Task Force
United States Department of the Interior
Bureau of Land Management (302)
Washington, D. C. 20240

RE: Draft Environmental Impact Statement of the Alaska Natural Gas Transmission System

FILE NO: AR-G-8001-75 (ANGTS)

DATE: September 19, 1975

The Mid-Ohio Regional Planning Commission (MORPC), as a metropolitan clearinghouse for the Franklin County and the adjacent townships plus Berkshire Township and in accordance with regulations and procedures established under Circular A-95, Office of Management and Budget, has reviewed the project listed above. As provided by the Commission for land use cases, the Land Use Task Force recommend proceeding with the application, but comments are attached that the Commission recommends be taken into consideration in compilation of the final Impact Statement.

The staff review was completed by Georgia Ehlers and Andy Catugno. Comments on the draft document were obtained by letter from the Delaware County Regional Planning Commission, Logan-Union-Champaign Regional Planning Commissiong, and from discussion at a joint meeting of Mid-Ohio's Land Use, Open Space and Transportation Committees of the Citizen's Advisory Council, and the Land Use Task Force of the Commission.

Very truly yours,

MID-OHIO REGIONAL PLANNING COMMISSION

Tom Willett
A-95 Review Officer

TW:GE:mmt

Enclosure

cc: Ned Williams, Ohio EPA
Nancy Hippert, State Clearinghouse
T. W. Elliott, Delaware County Regional Planning Commission
Carmen L. Scott, Logan-Union-Champaign Regional Planning Commission
Robert Skinner, Licking County Regional Planning Commission
Ed Schofield, Ohio Department of Natural Resources
Harold W. Kahn, Staff Scientist
Jack Probasco, Land Use Task Force
Tom Bay, CAC
Tom Allen, CAC
Norman Millard, Columbia Gas of Ohio

Preface

Below are comments and observations made by Mid-Ohio Regional Planning Commission staff, Commission members and citizens involved in the Citizens Advisory Council and guests.

The review was primarily concerned with the three volumes on the Northern Border and specifically with comments in the EIS on the Central Ohio region. We particularly focused on three counties - Union, Delaware and Licking - but many of the comments have a more general applicability.

I. Impact on Soils

A. Topsoils (pp. 957, 964, 966 - EIS)
The EIS states that the applicant intends to replace topsoils only when requested by the landowner or authorizing agency. It was the feeling of numerous discussants that replacement of topsoil over such a long route should be mandatory. If not every effort should be made by the applicant or others to notify landowners of their rights in requesting topsoil replacement. Coordination through local SCS districts might also be advisable in this area.

B. Exposure to Wind and Water Erosion (pp. 867, 969, 974, 975, 976, 977 - EIS)
Due to high water tables and highly acidic soils in Central Ohio, the possibility of erosion (streambank) is increased. Although conservation practices are mentioned, such as matting and mulching, it is not clear what the applicant intends to do, or what must be done to influence proper conservation techniques. Once again this should be coordinated with local SCS districts and landowners, and every attempt should be made to reduce streambank wind erosion during construction. Additional measures recommended include:

(1) reseeding promply after construction.
(2) restricting construction equipment to a minimal area.
(3) contractual compensation to farmers for land lost during the growing season.

C. Impact on Tile and Open Drainage Systems (pp. 986, 990, 989 - EIS)

(1) A 10' depth mentioned in the EIS as necessary to restore gravity flow is probably. Not necessary to restore gravity in this locale.
(2) Should coordinate with local SCS districts and local landowners/farmers regarding location of drainage ditches and depths required to restore gravity run to tile drains.
(3) Depth top of pipe should allow for future surface and ground water installations that may be required (refer to Delaware County's letter).
(4) A full time inspector should operate during construction in Delaware County; should be selected by the County but not paid from County funds (refer to Delaware County's letter).

II. Impacts on Aquatic Species (pp. 1108, 1109 - EIS)

The EIS states that the pipeline crosses the Big Darby Creek possibly endangering a rare species, Troutman's Catfish. All other indications in the EIS and from preliminary surveying maps obtained from the Department of Natural Resources are that the pipeline does not cross the Big Darby and could not endanger the species. This discrepancy should be eliminated or clarified.

III. Land Use Impacts

A. Delaware Reservoir Wildlife Area (pp. 1192, 1321 - EIS)
The EIS at one point casually mentions a realignment around the research areas should occur. This suggestion was apparently lmade without consultation with the Department of Natural Resources which had no position when recently consulted. The EIS states that the pipeline (although not definitely laid out) would destroy some unknown number of valuable research areas. If the realignment is a serious proposal, the exact proposed route should be determined, as well as the exact location and size of the research areas impacted. Specifications for a realignment should be stated, rather than casually mentioned.

B. Archealogical & Historical Sites
Since the area in Ohio through which the pipeline passes has not been surveyed, it is recommended that such a survey be undertaken in order to locate and remove any significant archeological and historical artifacts.

ENVIRONMENTAL IMPACT STATEMENT

ALASKA NATURAL GAS TRANSMISSION SYSTEM

SUMMARY OF COMMENTS

IMPACT ON SOILS

1. CONTAMINATION OF TOPSOIL BY EXCAVATION OF SUBSOIL
   - TOPSOILS SHOULD BE REPLACED ALL ALONG THE ROUTE
   - COORDINATION WITH LOCAL LANDOWNERS AND SOIL CONSERVATION DISTRICTS (SCS) IS NEEDED
2. EXPOSURE TO WIND AND WATER EROSION
   - ACIDIC SOILS AND HIGH WATER TABLES IN THE AREA MADE CONSERVATION MEASURES (MATTING/MULCHING) NECESSARY TO REDUCE STREAM BANK EROSION
   - COORDINATION WITH LOCAL SCS DISTRICTS IS NEEDED
3. DISRUPTION OF AGRICULTURAL ACTIVITIES BY CUTTING TILE AND OPEN DRAINS
   - DEPTH OF PIPELINE SHOULD ALLOW FOR INSTALLATION OF FUTURE DRAINAGE INSTALLATIONS
   - A 10 FOOT DEPTH REQUIREMENT CITED IN THE STATEMENT, TO RESTORE GRAVITY FLOW IS PROBABLY TOO DEEP
   - APPLICANT SHOULD COORDINATE WITH LOCAL SCS AND LANDOWNERS TO LOCATE DRAINS
   - DELAWARE COUNTY REGIONAL PLANNING COMMISSION REQUESTS A FULL TIME INSPECTOR DURING CONSTRUCTION IN THE COUNTY

IMPACTS ON WILDLIFE

1. AQUATIC SPECIES

- CLARIFY THE STATEMENT REGARDING THE CROSSING ON BIG DARBY CREEK AND THREAT TO TRAUTMAN'S CATFISH

LAND USE IMPACTS

1. DELAWARE RESERVOIR STATE PARK

- POTENTIAL DAMAGE TO RESEARCH AREAS SHOULD BE EVALUATED MORE EXACTLY
- THE PROPOSED REALIGNMENT AROUND THE WILDLIFE AREA SHOULD BE SPECIFIED
- COORDINATION WITH THE DEPARTMENT OF NATURAL RESOURCES (DNR) IS NEEDED REGARDING THE REALIGNMENT OR CONSTRUCTION THROUGH THE WILDLIFE AREA

2. ARCHEOLOGICAL AND HISTORICAL SITES

- THE AREA THAT THE PIPELINE PASSES THROUGH SHOULD BE SURVEYED FOR SIGNIFICANT SITES PRIOR TO CONSTRUCTION

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mid-ohio
regional
planning
commission

514 SOUTH HIGH STREET • COLUMBUS, OHIO 43215 • PHONE (614) 228-2663

Chairman: Warren J. Cremean
Director: William C. Habig

September 25, 1975

TO: Roman H. Koenings

RE: Draft Environmental Impact Statement of the Alaska Natural Gas Transmission System

FILE NO: AR-G-8001-75 (ANGTS)

Please attach the following correction to the "Letter of Completion" from Mid-Ohio Regional Planning Commission dated September 19, 1975.

In reference to "local SCS districts" in I. Impact on Soils - A, B, and C; should be local Soil and Water Conservation Districts.

cc: Ned Williams, Ohio EPA
Ed Schofield, Ohio Department of Natural Resources
T. W. Elliott, Delaware County Regional Planning Commission
Harold W. Kohn, Staff Scientist

MIKE O'CALLAGHAN
Governor

STATE OF NEVADA

ADVISORY MINING BOARD
4249 KINGS CANYON ROAD
CARSON CITY, NEVADA 89701
Telephone 882-3534

M. DOUGLAS MILLER
Chairman
882-3534
FRED O. GIBSON, JR.
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565-8741
PETER E. GALLI
329-1169
JAMES McCARTY
635-2680
J. M. REYNOLDS
573-2232
KENT ROLLINS
573-2335
HOWARD WINN
235-7741

August 12, 1975

To: EIS Task Force
Alaska Natural Gas Transp. System
Bureau of Land Management
U.S. Department of the Interior
Washington,D.C. 20240
and
Federal Power Commission
Alaska Natural Gas Transp. System
Washington, D.C.

Re: 325 Mile
Gas line and
2 connections
from Mainline
in Nevada & Supply
for Nevada

Gentlemen:

Thank You, Mr. Roman H. Koenings, Project Manager,EIS Task Force, Alaska Natural Gas Transportation system, information letter of July 25,1975, and copies of the Draft, Environmental impact statement # 1 thru # Vii with Executive Highlights, June 1975, U.S. Deptartment of Interior.

We have reviewed the "DRAFTS", as an Advisory Mining Board, for Nevada and have certain comments and recommendations for both of the above addressed Agencies of the Federal Government. The Nevada Plan as recommended by the Task Force is not acceptable to us or to the Citizens of Nevada for the following reasons:

1. The 325 mile transverse 30" Steel gas Main line from McDermitt, Nevada Thru six Counties of Nevada; Humboldt, Esmeralda, Pershing,Nye, Lander, Churchill and Mineral Counties,totaling seven Nevada Counties, to Oasis, California, on the Nevada-California Boundary, Ancillary and Maintenance stations are requested along this route with Four Pumping stations along the route, in remote areas in Pershing, Lander and Esmeralda counties of Nevada.
2. The above Statement would be acceptable providing proper and Exclusive Natural gas connections are made directly into or upon the Mainline of the 30 inch Steel supply line transversing the State of Nevada with one direct connection somewhere near Winnemucca, Nevada and the other somewhere West of Tonopah, near Coaldale or in Fish Lake Valley, in Nevada, so that both north and South Nevada can be supplied with a very much needed Natural gas, which in our view is necessary and important to our Economy and development as a very fast growing State.

It is not Feasible nor acceptable to receive gas from Meacham, Oregon, then run a parallel gas carrying line from there to Nevada, which envirommentally and economically is unacceptable. Our destiny without proper representation would lieentirely within the Public Service Commission of Oregon and this would be an intolerable and unacceptable plan.

We therefore recommend that item #2 be considered when the "Entry Permit" is granted by U.S. Deptartment of Interior and that The Federal Power Commission consider this

(Continued on page 2)

MIKE O'CALLAGHAN
Governor

STATE OF NEVADA

ADVISORY MINING BOARD
4249 KINGS CANYON ROAD
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235-7741

Page 2 continued, EIS Task Force, Alaska(Artic) Gas line thru Nevada

carefully before issuing a "Certificate of Convenience" thru Nevada.

We favor and Recommend the Gas Main Line thru Nevada providing the above request can be carried out in the planning stages and adopted as a policy of your two agencies. Further hearings should be heard with specifics on this subject in Open hearings so that People of Nevada can state their ideas. This subject was hurriedly passed over in the last hearing here in Reno, Nevada and very few people understood just what was being done. 1 raised this question and it was hastily set aside and passed over by the hearing officer and Engineers.

We will appreciate hearing from both of above agencies of the Federal Government just what is planned in detail on this matter of supplying Natural Gas from the Prudhoe gas field to the State of Nevada?

Thank you for listening and may we hear from you soon?

Yours very truly,
M. Douglas Miller
M. Douglas Miller, Chairman
Nevada Advisory Mining Board
(NRS Chapter 513)

c:c Governor, State of Nevada
Hon. Howard Cannon, U.S. Senator Nevada
Hon. Paul Laxalt, U.S. Senator Nevada
Hon. James Santini, U.S. Congressman, Nevada
Nevada Mining Association
Exploration Geologists of Nevada
Reno and Las Vegas Nevada,Chamber of Commerce
Nevada Legislatiwe Commission, For the State Legislature
Governors Coordination Commission and Natural Resources
Foresta, Susan Orr
Nevada Public Service Commission

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL RESOURCES
P. O. BOX 1467
HARRISBURG, PENNSYLVANIA 17120

The Secretary

September 17, 1975

SUBJECT: Department of Environmental Resources
Review and Evaluation of
PSCH No.: 75-07-3-003

TITLE: Alaska Natural Gas Transportation System - DEIS

LOCATION: Alaska to Pennsylvania

TO: Rosemary White, Project Coordinator
Pennsylvania State Clearinghouse

Maurice K Goddard

FROM: MAURICE K. GODDARD
Secretary of Environmental Resources

The proposed project is granted conditional clearance provided that the attached requirements are met.

This project has been evaluated on the basis of the actions proposed in the applicant's submission. Any approval, granted or implied, does not extend to any changes made by the applicant subsequent to and not in keeping with our recommendations. Any such changes will require a new submission through the Pennsylvania State Clearinghouse.

DEPARTMENT OF ENVIRONMENTAL RESOURCES
SUMMARY OF REVIEW AND EVALUATION

PSCH No.: 75-07-3-003

TITLE: Alaska Natural Gas Transportation System - DEIS

DATE: September 17, 1975

LOCATION: Alaska To Pennsylvania

The following comments are made based on the review and evaluation of the submitted project.

1. In addition to the environmental impact factors pertaining to the Water Resources section on page 9 of this report, from a water supply viewpoint, the proposed Alaska Natural Gas Transportation System could have adverse effects on Pennsylvania's water supply utilities located in the Counties of Beaver, Allegheny, Washington, and Westmoreland, along the pipeline proposed route from Pennsylvania's western border to terminus at Delmont, Westmoreland County.

2. The utilities in these Counties have main transmission lines, service connections, surface water intakes, wells, springs, and storage reservoirs. Therefore, close contact should be maintained with effected water supply utilities in these areas prior to and during pipeline construction operations, to minimize adverse effects to water supply facilities and water users during any excavation or demolition activities in the proposed pipeline corridor areas.

3. We recommend that a thorough study of the proposed final alignment be made to assure preservation of ecologically sensitive areas in Pennsylvania, and to check for proximity to state parks and forests areas.

4. In reviewing the subject impact statement (17 volumes), the Department concentrated solely on the North Border Section which contains the segment pertaining to Pennsylvania.

5. They noted that there is limited acreage involved in the Pennsylvania segment (approximately 700 acres during construction on a 100' R.O.W. and approximately 400 acres of permanent R.O.W.), and that this acreage is neither on nor in proximity to either State forest land or State Parks' land. However, at this point we can recognize two potential problem areas.

A. Three natural areas inventoried by the Western Pennsylvania Conservancy may be affected by the corridor. (Guffy Hollow, Delmont Fossil Site, Rimerburg Fossil Site).

B. Three of the streams crossed in Pennsylvania have been recognized in the preliminary draft - Wild and Scenic Rivers Inventory. (Monongahela, Youghiogheny, Brush Creek).

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6. Information presented in the Impact Statement does not delineate a final pipeline alignment, therefore, we reserve the right to evaluate the final alignment in terms of its true impacts.

7. Gas transmission line enters Pennsylvania from West Virginia at Frogtown, Pennsylvania and proceeds eastward across the Youghiogheny River near the Allegheny-Westmoreland County line, proceeds eastward for another seven miles and then turns northeast to the Oakford Gas Storage Field near Delmont, Pennsylvania. Along its Pennsylvania alignment it traverses local areas of mine subsidence and landslide prone materials. Subsidence or disturbance of the equilibrium of the slide prone rock may result in rupture of the gas transmission pipe.

8. The applicant must submit a soil and erosion control plan. The plan must include measures for minimizing erosion during the construction and for regrading and seeding to stabilize the area once construction is completed. If the area to be cleared at any one time is 25 acres or more, a soil and erosion control permit must be obtained prior to construction.

9. If the project will encroach on waters of the Commonwealth, then an encroachment permit must be obtained from the Bureau of Water Quality Management prior to the start of construction.

10. An industrial wastes permit may be necessary at Delmont for the pressure testing water discharges.

11. The proposed natural gas pipeline would be of great benefit to Pennsylvania industry and domestic users. No significant or long range adverse impact on the geology is indicated.

12. The Department of Environmental Resources retains an interest in this project and environmental effects encountered or anticipated in the further development of this project.

SOUTH Dakota Department of Environmental Protection
Pierre, South Dakota 57501
Phone (605) 224-3351

September 19, 1975

Roman H. Koenings RHK
Project Manager
Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of Interior
Washington, D.C. 20420

Dear Mr. Koenings:

The management staff and appropriate program chiefs in the South Dakota Department of Environmental Protection (DEP) have reviewed Part V, North Boarder, Volumes 1 - 3, of the Alaska Natural Gas Transportation System Draft Environmental Impact Statement. Only these volumes deal directly with the effects of the pipeline on the environment of South Dakota. Administrative review indicates that the five points contained in Section 102 (c) of the National Environmental Policy Act of 1969 are adequately covered. A number of corrections and comments from DEP technical personnel are noted in the following paragraphs and will hopefully be incorporated into the final EIS.

Line 9 on page V-024, states that the proposed route passes 3 miles south of Aberdeen, yet the map on page V-022 and subsequent similar maps show the route north of Aberdeen.

Section D on page V-037, contains a number of misstatements. Coal deposits in South Dakota are insignificant when compared to North Dakota and Montana. Coal in South Dakota is also of poor quality and considered to be of little commercial value at this time. Also, substantial coal deposits in South Dakota are located only in the northwest corner of the State and will not be crossed by the proposed route as stated in lines 10 and 11.

The first line on page V-071 states that construction will require about 16 months. May 1977 to July 1, 1979, is 26 months. Is the 16 month construction time a printed error or does it reflect the portion of the 26 month period in which actural construction takes place? This should be clarified.

Stream crossings (V-092) will cause violation of South Dakota's Surface Water Quality Standards because of increased suspended solids during actual construction. A short term variance from DEP may be required to insure that appropriate construction measures are taken to minimize the effect of the violation.

Hydrostatic testing procedures (V-107 - V-108) will require large amounts of high quality water. In semi-arid areas such as northeastern South Dakota, removal of large amounts of water from small streams or lakes could adversely affect the future uses of these waters. We would appreciate tentative information on where water for hydrostatic testing will be needed in South Dakota, where and in what amounts the water will be discharged in South Dakota, and expected changes in test water quality, even if negligible.

The table on page V-572 indicates that the municipal water supplies of Huron and Watertown are potentially degradable by pipeline construction. DEP would appreciate detailed information on the James River crossing and how the pipeline affects Lake Kampeska. DEP could then assess the situation to assure that the proposed route is indeed the best route for the pipeline and that adequate pollution control measures are employed.

Page V-635 indicates that the prairie pothole region of the Dakotas presents an ecosystem that is definitely unique, sensitive and probably threatened. We agree, and hope to be assured that all possible measures be taken to prevent the drainage of this unique ecosystem by pipeline construction.

The paragraph on page V-793 contains some misconceptions. Open burning was prohibited in municipal "dumps" on July 10, 1975. By July 1, 1977, all counties and municipalities in the State are required to have implemented solid waste management systems which would require the disposal of municipal solid waste in a sanitary landfill that meets State regulations, thus virtually eliminating the "open dump".

Line 21 on page V-799 states that the proposed route will not affect potentially irrigable land. The first stage of the Oahe Irrigation Project will irrigate 19,000 acres of farm land in northeastern South Dakota. The proposed route will likely cross a number of canals and pipes used for return flows. Until this possible conflict with the Bureau of Reclamation is resolved, we feel that the expected environmental effects of either project are uncertain.

How will the surplus material mention in line 24, page V-956, be disposed of? Dredge and fill disposal regulations may not allow disposition of these materials into adjacent lowlands. It is unlikely that large amounts of surplus material can effectively be disposed of by spreading it over the land, although disposal of materials into existing abandoned gravel pits may be a viable alternative.

Unless grazing is controlled on rangeland, revegetation of the right-of-way will not succeed despite other intensive conservation practices iodicated in line 18, page V-968. An agreement with the individual landowner to fence the right-of-way until revegetation is complete should be considered.

Pages V-982 through V-984 discuss possible conflicts with this Initial Stage of the Oahe Unit Irrigation Project. It is imperative that early coordination take place between the applicant and the U.S. Bureau of Reclamation as stated in line 10, page V-983 in order to avert future construction modification which may cause environmental changes which are not presently considered in the EIS of either project. It appears as if the West Main Canal and the design of each pipeline and each lateral would have to be modified. The final EIS should not be issued until this problem is adequately resolved.

Line 6, page V-983, the word "State" should read "Stage". What chemicals are to be applied to the right-of-way as indicated in line 9, page 993? Are there others in addition to those listed on page V-1008? South Dakota will have an operational disposal site for toxic and hazardous wastes and their containers by the proposed construction date.

Line 7, page V-994, the word "despoits" should read "deposits".

Paragraph 3, page V-1002 describes possible adverse effects of trenching on pothole drainage. Since abundant waterflow is considered an important part of the prairie pothole region ecology, we want to be assured that every effort be made to mitigate drainage of these areas.

Line 23, page V-1003 indicates that withdrawal of hydrostatic test water may impact municipal water supplies. I would like to repeat the request made earlier in this letter to supply us with locations and amounts of water used and discharged by this testing procedure.

Fuel storage sites (page V-1006) should be diked near lakes and streams to eliminate the effects of a large spill on water quality.

"By the second year after construction, the potholes should again have regained their previous wildlife potential" (Line 13, page V-1079). This statement is preceeded by seven "If's". What would be a more realistic reclamation time schedule? If only one of the seven necessary conditions were not met, permanent drainage of some areas would occur.

Water quality, as discussed on pages V-1315 through V-1317, is considered an important part of South Dakota's natural environment. Compliance with South Dakota's Surface Water Quality Standards is mandatory and compliance with them will assist in avoiding environmental degradation. The means of mitigation mentioned in this section can be effectively used to control water pollution and should be incorporated into the applicant's contruction plans.

Line 17, page V-1395, and line 10 on the following page indicate that NOx emission will exceed South Dakota's standards. The air quality regulations of the state have been rewritten and will soon be approved. These regulations will eliminate NO emission standards. A copy of the final air regulations will be forwarded to you following their final approval.

Following an analysis of the proposed route and the alternative routes, DEP believes that the proposed route will best benefit South Dakota with a minimum of adverse environmental effects. A summary of the reasons follow. Line 1 Alternative Route will have the same impact as the Proposed Route. Line 2 Alternative Route would have the most severe environmental impact in South Dakota. It traverses several miles of highly erodable soil in western South Dakota. It involves more major river crossings, affects larger population centers, and does not assure delivery of natural gas to South Dakota as a trade-off for the environmental costs incurred.

Although line 3 Alternative Route crosses throughonly a short part of northeast South Dakota, several critical areas are affected which are mentioned on pages V-1493 and V-1494. Impacts on potholes and wetlands may, in fact, be more severe than on the proposed route. Again there is no assurance of a gas delivery station in South Dakota from line 3.

Lines 4,5, and 6 Alternative Routes would have little or no effect on the environment of South Dakota, but that the trade-off of receiving natural gas for use in the state would compensate for the environmental effects expected from the proposed route. Natural gas has been, and will continue to be, the major home heating source in this part of rural America. With the expected cutback of natural gas and petroleum supplies from Canada, this alternative source of energy cannot be discounted in favor of relatively minor evnironmental impacts.

The 42-inch System would affect the environment in a manner similar to the proposed route with the exception of producing substantially more erosion and stream sedimentation. This factor, plus the excess land required for the construction and permanent rights-of way, render this route more unsatisfactory than the proposed route.

In conclusion, the South Dakota Department of Environmental Protection would like to commend the EIS Task Force for the high quality Impact Statement which it has produced. Considering the massiveness of the project and its environmental implications, an excellent job has been done in gathering and analyzing data, the result of which is a number of recommendations for mitigation of adverse environmental impacts. Hopefully, the corrections and comments which are herein submitted to the EIS Task Force will be incorporated into the final EIS and the actual construction of the project.

Thank you for providing us with an opportunity to comment on the EIS. Please contact us if we can assist you in this matter.

Sincerely,

Allyn O. Lockner

Allyn O. Lockner, Secretary
Department of Environmental Protection

cc: Dan Bucks, Bureau of Planning
Mark Steichen
Richard Howard
Jim Bohls
Robert Pipe

A5/D5

State of Ohio Environmental Protection Agency, Box 1049, 361 East Broad Street, Columbus, Ohio 43216 (614) 466-8565

James A. Rhodes
Governor
Ned E. Williams, P.E.
Director

OhioEPA

October 28, 1975

Re: Draft EIS - Alaska Natural Gas Transportation System - USDOI

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of The Interior
Washington, D.C. 20240

Dear Mr. Koenings:

The Ohio Environmental Protection Agency has been charged, by the Governor, with lead agency and review coordination responsibilities for the State of Ohio on Federal Environmental Impact Statements. The above mentioned Draft Environmental Impact Statement has been reviewed by sections of this Agency, the Ohio Department of Natural Resources, the Ohio Department of Economic and Community Development, and the Ohio Department of Transportation. The following comments constitute those received from the above agencies and have been coordinated under the auspices of the State Clearinghouse.

The above referenced Draft EIS was undoubtedly the most comprehensive document, from the standpoint of geographical distribution of construction ever reviewed by this State. This review will not attempt to imitate the document, but will concern itself primarily in two areas, one being the overall concept of the project, and the second being related to Part V of the document (specifically Ohio).

An undertaking of this sort, with the environmental impacts and associated economic costs, should be justified in as clear and comprehensive a manner as possible. While it can be said that the documents exhibited comprehensive data on projected energy supply/demand scenarios, it cannot be said that the presentation of that data was done in a clear, understandable manner. The proliferation of tables showing estimated demands and supplies of gas, referencing various sources throughout the documents, tended to confuse and contradict issues which given the geographic scope of the project and the probable deregulation of natural gas, need to be dealt with. It might be more appropriate to re-design the various sections on justification of the project into a section which clearly and concisely indicates the needs of various sections of the United States affected by the project as well as the possible supply areas which might occur through

deregulation. Any material which may be available showing this information would do much toward justifying the construction of a pipeline from Alaska to serve customers in Ohio. This State is acutely aware of a "shortfall" of natural gas as, no doubt, are other States within our region. However, the practice of constructing longer and then longer pipelines to remote corners of the globe while potential reserves nearer at hand lie undeveloped because of artificial price ceilings makes little environmental or economic sense. While the justification of the pipeline based on demand versus supply is not to be denied, it is felt that deregulation's impacts (as discussed in Parts V and VI) are far more significant as to geographic availability of natural gas than has been discussed thus far in the document.

An additional justification which should be explored as to secondary impacts concerns the statement in Part V that the proposed pipeline could be used to transport gas produced from coal obtained in the Dakotas. The statement suggests that the likelihood of this additional source of gas is a further justification or benefit of the pipeline. The statement apparently fails to interpret the coal mining and gasification operations (with their attendant primary and secondary impacts) as secondary impacts of the pipeline project, an interpretation that would be valid if it were shown that the prior existence of a large-volume pipeline increased the benefit--cost ratio of the coal-gasification scheme. If the increase in the benefit--cost ratio were crucial (that is, sufficient to make the benefits of the operation greater than the costs), then there is no question that the coal-gasification operation would be a secondary impact of the Northern Border Pipeline.

On page I-16, the more general statement is made that "there is sufficient excess capacity in the proposed system to handle an additional 1.3 trillion cubic feet annually," and "thus, the system can readily accommodate additional sources of gas without additional construction." This statement increases the likelihood that the proposed pipeline system will generate secondary impacts. It is appropriate that the Final Statement should expand its consideration of the pipeline's secondary impacts.

One major complaint submitted by all reviewers concerned the graphics for the Northern Border Area (Part V). While it is realized that a final alignment is yet to be determined, there was a corridor developed. However, the maps depicting the corridor in the document were not sufficiently detailed to allow the reviewers to follow the corridor to any great detail. The ultimate examples of this occur on pages V-250, V-284, V-323, and V-324 where four maps of Ohio, all necessarily vague but of nearly the same scale, show four differing corridor alignments. This same problem applies to milepoints not shown in detail, and the positioning of microwave towers, compressor stations, and delivery points. A possible solution to this would be the consolidation of more parameters on single, detailed maps rather than the display of single parameters on many generalized maps.

Specific Comments

The following are comments related to various parts of the document. They are labeled as to the affected section.

Part I - 2.0V.11 - Compressor station locations. It would be helpful to know how compressor station locations are optimized. A diagram of typical noise contours around a compressor station would also be valuable.

Part I - 5.0V.1 (B) - This appears to be a very serious criticism of the project. Exactly what is the meaning of this statement?

Part I - 7.0V.3 (E) - The committment of resources mentions 5.9 million tons of steel as well as 21.7 million pounds of welding rod. For steel, this is 4.72% of the 1971 production which is an appreciable part of the supply. Sufficient lead-time for production of these materials should be considered in the statement.

Part V - 1.1.3.9-B - As defined, the proposal could affect both the short-range planning and maintenance operations in five (5) of Ohio Department of Transportation's Field Districts. It is requested, that as soon as the alignment is defined in more detail that sufficient sets of prints for the alignment in Ohio be furnished in order that proper coordination can be established in the Ohio Department of Transportation.

Part V - 2.1.3.3 (B) - (1) It would be prudent to obtain information on the exact locations of all oil and gas wells within the corridor, to reduce the possibility that the wells will be intersected during the trenching or blasting operations. The locations of known oil and gas wells are on file in, and are available from, the Subsurface Section, Ohio Division of Geological Survey.

(2) The Meigs Creek (No. 9) coal bed should be listed on page V-322 as an important coal bed in eastern Ohio.

(3) It is not clear from the document whether the pipeline will pass through coal-mine rubble. A statement on page V-322, second paragraph indicates this will occur, however page V-934, second paragraph apparently contradicts this statement. This should be clarified.

Part V - 2.1.3.11 (E) - This section discusses the Ohio zoning process. The authors of the Draft EIS are apparently misinformed about several things. Contrary to their belief, counties normally do not institute zoning on their own. Zoning is instituted in Ohio on a township-by-township vote of the people. Also, agricultural land and public utilities land is exempt from zoning and is considered only as a land use. The attached pages from the Rural Zoning Handbook may prove useful to the authors of the Draft EIS.

The Draft EIS also fails to mention the Ohio Mid-Eastern Governments Association (OMEGA) as an A-95 review agency. Their name and address should be added to the statement (Part V, Volume 3, page V-1622, and possibly elsewhere). Their address is as follows:

Ohio Mid-Eastern Governments Association
Post Office Box 66
326 Highland Avenue
Cambridge, Ohio 43725
614-439-4471

Part V - 3.1.3.3 - The Draft EIS thoroughly addresses the impact of constructing and operating the proposed pipeline on geologic parameters, but it fails to discuss specifically the impact of the pipeline within the proposed corridor. That is, the geology of the regions through which the pipeline will pass is adequately discussed, but specific impacts on the geology of specific sites are not discussed. The treatment is too general; impacts should be discussed on a site-specific basis.

Part V - 3.1.3.4 - Most of the issues of concern to the Ohio Department of Natural Resources (ODNR) and to local soil and water conservation districts are quite well addressed in Part V of the Environmental Impact Statement. They include:

(1) Accelerated soil erosion and related sediment pollution;

(2) Reduced productivity indefinitely unless the surface layer of soil is removed and replaced;

(3) Expeditious revegetation or stabilization of the construction area; and

(4) Consideration of existing drainage facilities.

Two areas of concern are not well addressed. There is no indication whether future surface and subsurface drainage needs or fertility replenishment in conjunction with vegetation reestablishment will be considered during Phase II Construction.

Ohio Department of Natural Resources, Division of Soil and Water Districts is primarily interested in a logical, cooperative means of minimizing the adverse impact on the above mentioned items. The Division feels that topsoil should be restored in all cases, unless otherwise negotiated by the landowner and the local soil and water conservation district. It also feels that reasonable consideration should be given to future drainage needs with regard to pipe depth. A copy of a cooperative agreement which can serve to satisfy these needs, as well as locating existing subsurface drains and addressing erosion-control requirements has been enclosed. The joint program and policy for cooperation has stood up well in practice, serving the interests of the landowners, the utility companies involved, and the public.

The responsible company should also be made aware of the Division of Soil and Water District's proposed sediment control regulations, which may be in effect as early as July 1976. These regulations would basically control all earth-disturbing activities except agricultural activities, which are dealt with under a similar set of specific regulations. If applicable at the time, such regulations would require a statement by the responsible company of policies that it will follow to control erosion during and after construction. The policies then would need to be (1) approved by the responsible approving agent and (2) complied with until such time as the area is stabilized against erosion.

Part V - 3.1.3.6 (A) - From the standpoint of Ohio forestry, the most critical part of the pipeline will be that in western Ohio, where there is so little forested land and related wildlife habitat. Any loss of forests in western Ohio will have a greater impact than would be in eastern Ohio. Therefore, every effort should be made to avoid woodlots in western Ohio. If they must be crossed, they should be crossed along their edges, rather than their middles, to mitigate extensive damage.

Part V - 3.1.3.13 (A) - No dedicated nor potential state nature preserves will be directly affected by the proposed pipeline. However, construction of the pipeline across Wakatomika Creek (Martinsburg Quadrangle, U.S.G.S. Topographic Map 7.5-minute series) could adversely affect the stream ecosystem. The pipeline will cross the watershed of Wakatomika Creek upstream of an area of interest to the Natural Areas Section of the Department of Natural Resources as a potential state nature preserve. A map of the area in question is attached.

Recreational Facilities

The proposed pipeline will cross the Buckeye Trail (map attached) twice, once in western Ohio and once in eastern Ohio. Provision should be made to ensure the safety of hikers who will be using the trail, and to provide alternative routes during construction.

If possible, the feasibility of using the right-of-way for nonmotorized recreation (e.g., hiking) should be explored.

Part V - 4.1.3.2 (C) - Several reviewers expressed concern over the loss of topsoil along the proposed route. It would be of more aid in the cause of reducing soil erosion and water pollution were the applicant to indicate to the landowner that he has the opportunity to have his topsoil replaced, rather than wait for the landowner to require it.

We would like to point out at this time that the comments above should not be considered as an indictment of the Draft EIS. For every point raised above there were two to three points given as to the quality and adequacy of the document as a whole. Your task force can be proud of the document as it stands at this time. We greatly appreciate the opportunity to review this document and feel confident that when the Final EIS is produced our expressed concerns will be addressed.

Very truly yours,

Ned E. Williams, P.E.
Director

GW/sc
31503.0

Enclosures

Rural Zoning Handbook
Map of Buckeye Trail
Map of Wakatomika Creek Natural Area
Statement of cooperative agreement with utilities
Proposed Ohio Urban Soil Sediment Pollution Abatement Standards and Regulations

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Lewis and Clark - 1805
RESOURCE CONSERVATION & DEVELOPMENT PROJECT
Box 236 Mandan, North Dakota 58554 Phone 663-6587

October 10, 1975

State Planning Division
State Capitol
Bismarck, North Dakota 58505

RE: A-95 Alaska Natural Gas Transportation System

Gentlemen:

The Alaska Natural Gas Transportation System is critical to the economic well-being of Eastern economics. There is little economic advantage to North Dakota.

The Regional Council for Development should be kept fully informed of progress so that landowners and local people will be equipped to make decisions. The Council would expect each person or entity to be fully aware of the consequences of releasing land for the pipeline route.

Sincerely,

Duncan R. Warren
Duncan R. Warren
Project Director

DRW/kas

Enclosure

NORTH DAKOTA STATE PLANNING DIVISION
STATE CAPITOL—FOURTH FLOOR—BISMARCK, NORTH DAKOTA 58501
701 224-2818

October 24, 1975

STATE INTERGOVERNMENTAL CLEARINGHOUSE "LETTER OF COMMENT"
ON PROJECT REVIEW IN CONFORMANCE WITH OMB CIRCULAR NO. A-95

To: U.S. Department of the Interior - Bureau of Land Management
STATE APPLICATION IDENTIFIER: 7507310411

Mr. Roman H. Koenings, Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
U.S. Department of the Interior
Bureau of Land Management
Washington, D.C. 20240

Dear Mr. Koenings:

Subject: Draft Environmental Impact Statement by the U.S. Department of the Interior - Bureau of Land Management on the Alaska Natural Gas Transportation System.

This Draft EIS was received in our office on July 31, 1975.

In the process of the A-95 review, the attached comments were received from the Lewis & Clark 1805 RC&D, Buford-Trenton Irrigation District, Emmons County Soil Conservation District, Arnegard-Alexander Soil Conservation District, Lower Yellowstone Soil Conservation District, Public Service Commission, Sioux Township Board, Aeronautics Commission, McIntosh County Planning Commission, Dunn County Planning Commission, State Park Service, Soil Conservation Committee, ND Wildlife Federation, North Dakota Highway Department, McKenzie County Commission, State Health Department, Theodore-Roosevelt Park, ND Farmers Union, Mr. and Mrs. Harry Selby and the Williston Basin RC&D.

This document and attachments constitute the comment of the State Intergovernmental Clearinghouse, made in compliance with OMB Circular No. A-95.

Sincerely yours,

Bonnie E. Austin
Miss Bonnie E. Austin
Associate Planner

BEA/ds

Attachments

American State Bank
. BOX 1446. WILLISTON, NORTH DAKOTA 58801 TELEPHONE 572-2115

September 30, 1975

RECEIVED
OCT 13 1975
State Planning
Division

State Planning Division Board
State Capitol
Bismarck, North Dakota 58501

Gentlemen:

The Buford-Trenton Irrigation District, Trenton, North Dakota, is unalterably opposed to the proposed Alaska pipeline crossing of our land. The reasons are as follows:

1) It would entail cutting through our main canal, several laterals, our main drain in the West Bottom, and minor drains. Cutting these vital stems would curtail or stop irrigation to, not only the immediate area (West Bottom), but also all irrigated lands downstream while construction was in progress.

2) The proposed site for crossing our district would cause irreparable damage to six farms. This land is all machine-levelled, divided into fields, and connected to drains for efficient use of water, machinery, and manpower. Laying a 48" pipeline across these fields would drastically lower productivity as well as efficiency.

3) We recommend a crossing site in the general vicinity of the Lewis and Clark area. This area is now owned by the government and has been ruined for irrigation by high water. Why not cross an area already ruined instead of crossing some of the most highly productive land in North Dakota?

We reiterate we are opposed to the proposed crossing of our lands and suggest you give an alternate plan serious consideration.

Sincerely,

Don Rider, Chairman

Clarence Johnsrud
Clarence Johnsrud, Vice Chairman

J.D. Gannaway
J.D. Gannaway, Board Member

OCT 10

I am Roger Sanders Chairman of the Arnegard-Alexander Soil Conservation District Board.

We called two public meetings, one held in Alexander on March 10, 1975 and the other on March 11, 1975 at Watford City, to inform the public and the landowners on whose land the Northern Border Pipeline might have its effect.

The project is to go approximately 65 miles across McKenzie County and, as close as we could ascertain, all but two of the landowners involved were present or had representatives there. We believe this was real good participation. The input by the people present was tremendous.

The concern of many at these meetings was the possible wind erosion as there is a lot of highly erodable soil where the proposed line is mapped and it goes parallel to prevailing winds.

The concern of people with livestock was the cutting off of water supply or feed supply during construction.

The people feel the definite need of energy supply to necessitate further advancement of our country but we also feel we have a right in determining how the land involved shall be handled. There is only so much food producing land available in these United States and this pipeline involves the production on approximately 3,200 acres in North Dakota. How much of this will be lost forever? How much will be lost for a short time? How much will be left in a position of lower production or in an uneconomical state?

The people concerned from McKenzie County want me to add the minutes of the two meetings to this presentation so that you may have their feelings included in your decisions.

(Attached are the minutes from the Alexander and Watford City meetings)

I am also a member of the Williston Basin RC&D Executive Council which will file a statement with you prior to the deadline. However, they are in support of the statements I have made and will have more to add.

Thank you for the priviledge to present this.

Roger L. Sanders
Alexander, ND 58831
Sept. 29, 1975

Minutes from Alexander Meeting
March 10, 1975

Roger Sanders, Chairman of the Arnegard-Alexander Soil Conservation District board called the meeting to order at the Alexander High School Library on March 10, 1975 at 2 p.m.

This meeting was with landowners on whose land the Northern Border Pipeline Project will have its affect. The purpose of the meeting was to establish some guidelines as to responsibilities and actions regarding the tearing up the land and its restoration.

Others present for the meeting were:

Earl L. Andersen, District Conservationist, SCS, Watford City
Rusty Dersch, Minerals Administrator, Forest Service, Watford City
"Ike" Ellison, Natural Resources Coordinator, Governors Office, Bismarck
E. J. Englerth, Publice Service Commission, Bismarck
Delton D. Schulz, State Water Commission, Bismarck
Norman Peterson, State Health Department, Bismarck
Donald D. Patterson, Soils Department N.D.S.U., Fargo

The concerns brought out in the meeting were:

I. Compaction of the area from the traffic.

It was assumed an area of 100 feet would be affected. The pipeline will be along one side of the right away with most of the traffic on the other side.

How will the compaction be handled?

Donald Patterson, Soils Department, N.D.S.U. stated that there are two critical layers - top soil and sub soil. These layers should be stock piled individually then replaced after ditch is back filled. He also stated that timing would be a factor since the degree of compaction by heavy equipment would be greater when the soil is moist than when it is dry. Patterson stressed the importance of soil maps in planning restoration of affected areas along the right-away.

II. Revegetation.

a. Seedbed preparation. The actual thickness of surface an subsoil that should be stockpiled before excavation begins would depend on kind of soil being disturbed.
b. Seeding - It was suggested an equal ratio of bromegrass and westerwheat. Mr. Dersch, of the Forest Service, recommends - 8 lbs. green needle, 2 lbs. western wheat, 2 lbs. sweet clover. It was suggested, that the fertilization and seeding could be done by airplane.
c. Fertilization - The question was discussed of typing and testing the soils. It was of concern just who would be expected to pay for this. However, a recommendation was given that the fertiliser should be a 2-1-1 ratio, but specified pounds of actual plant nutrients applied. It was suggested that about 50 lbs. actual nitrogen should be applied at seeding.

III. There should be adequate compaction of fill to prevent settling, piping and subsequent channel erosion along pipeline. Norman Peterson, State Health Department, stated that the area over the ditch should be mounded to allow for possible settling.

IV. Another concern was the spreading of waste material. Delton Schulz, State Water Commission, felt the land should be shaped to the natural topography.

V. The question as to what will be done with the rocks that are dugout was discussed. It was the consenus of the group that rocks of two inches in diameter or larger should be stockpiled where the landowner would not be unduly hindered in his farm operation. This thought was not just for cultivated land but grassland as well.

VI. The problem of wind and water erosion along the right of way was discussed. Ike Ellison, Natural Resources Coordinator, suggested the possiblity of mulching in areas of sandy soils to control wind erosion. Earl Andersen, District Conservationist, explained water diversion procedure used by S.C.S. in developing grassed waterways. It was recommended that the Soil Conservation Service set up the criteria for erosion control.

VI. Concerns were expressed in regard to possible separation of cattle from water sources in grazing areas. Mr. Englerth, Public Service Commission, pointed out the need for type of fencing to keep cattle off newly seeded areas until grass has become established.

Mr. Englerth stressed the importance of legal counsel in negotiating with the pipeline company. He also stated that the County Commissioners make themselves aware of the effect of the pipeline on roads etc.

Mr. Ellison stated that Senate Bill 2050 if passed provides for help to landowners in these situations.

Mr. Dersch explained the Forest Service policy with respect to reclaiming areas affected by pipeline installations. He mentioned separation of top soil, sub strata and replacement of these materials after construction. He also mentioned restoration of original surface contour and drainage. He indicated the type of grass seed mixture to use and the need to fence off reseeded areas for 2 full growing seasons. The Forest Service will require rehabiliation of the affected area.

Mr. Englerth stated that the Public Service Commission is responsible for location of plants and transmission lines. Mr. Englerth and Ellison stated that this type of meeting gives them valuable direction for the Public Service Commission and Natural Resource Council. At the close Mr. Ellison indicated the need for control of fire hazards during construction, the possible affect of pipeline on temperature of the surrounding soil and need for weed control along the right of way areas.

Other concerns discussed were:

1. Sub-station area which would involve 20 acres of land. Also there could be a noise problem.
2. There will be 2 towers which will take up 7 acres of land each.
3. Will the right away be turned back to the farmer after construction?
4. What recourse does the landowner have if the pipe washes out several years after installation. Mr. Ellison suggested the need to obtain performance bonds from the pipeline company.

Minutes from Watford City Meeting
March 11, 1975

Roger Sanders, Chairman of the Arnegard-Alexander Soil Conservation District board called the meeting to order at the REC building in Watford City, on March 11, 1975 at 2 p.m.

This meeting was with landowners on whose land the Northern Border Pipeline Project will have its affect. The purpose of the meeting was to establish some guidelines as to responsibilities and actions regarding the tearing up the land and its restoration. Mr. Sanders further stated that the objective of the meeting was to make people aware of what is coming, and to learn what were some of the problems had concerning the project, also things that could be put into the lease.

Others present for the meeting were:

Frank Fish's students of Environmental class, Watford City
Rusty Dersch, Minerals Administrator, Forest Service, Watford City
Philip E. Howard, Forest Service, Watford City
Sam Halversen, Forest Service, Watford City
Donald D. Petterson, Soils Department N.D.S.U., Fargo, N. D.
Earl L. Andersen, District Conservationist, Watford City
C.F. Rupe, Representative Nation Gas Pipeline Co. of America, Bismarck,N.D.
Ormand Leatherberry, M.D.U. Watford City, N.D.
Charlotte Schilke, Abstract & Title Co., Watford City
Delia Halverson, Correspondent-Williston Herald, Watford City
Murphy Eklund, County Commissioner, Watford City
Robert Hanna, County Commissioner, Watford City
Gordon Levang, County Commissioner, Keene
Robert Flynn, County Commissioner, East Fairview, MT.
Ralph L. Boye, Forest Ranger, Watford City
Frank Fish, Biology Teacher, Watford City

The question as to what will be done with the excess soil was brought up. Mr. Patterson from the Soils Department of N.D.S.U. again suggested how he felt it would be best to handle this. (Refer to the Alexander Minutes Item I.)

Mr. Mervin Olson, Arnegard, recommended that the landowners use Mr. Patterson's suggestion.

Gordon Olson, a rancher in the Badlands area was concerned as to the erosion problem the pipeline project might cause in the deep gullies. Rusty Dersch, of the Forest Service explained their policy as to reclaiming the land. (See Alexander Minutes Item VI paragraph IV.) Another question in regard to this problem was, how will it be 3 or 5 years after the project is completed. It was ~~suggested~~ recommended that the landowner request that the company come back and check the area for such problems. However, Gordon Levang, County Commissioner, expressed that the oil company in their area is also concerned about this and that they fly over the line frequently, at least once a week.

Mr. Olson was also concerned about the trees along the route. Mr. Dersch, stated that the Forest Service is recommending other routes where it would affect a lot of trees, and also that they come back and replace trees where they felt they will not reseed themselves.

At the Watford City meeting there was also discussion in regard to rocks, fertilization, wind and water erosion. Mr. Sanders read the results of the Alexander meeting and this group felt the recommendations were beneficial. (See Alexander Minutes.)

Mr. Dersch, recommended that where grass is reseeded and livestock is in the area it should be fenced for at least two growing seasons.

Mr. Sanders, stated that Normen Peterson, State Health Department, and Delton Schulz, State Water Commission, stated at the Alexander meeting that they would try to control things to protect the water source so it will not be destroyed.

Sam Halverson, Forest Service, felt that the landowners could have in their leases with the company stipulations as to fire control, temperature control and compaction preventative measures.

At the close of the meeting Mr. Sanders strongly suggested that the landowner have the assistence of an attorney to help in drawing up a lease, as the company has the lease more in their favor. He also mention Senate Bill 2050 that Mr. Ellison had mentioned in the Alexander meeting.

The Watford City Association of Commerce served coffee and doughnuts to the group.

Emmons County
SOIL CONSERVATION DISTRICT
LINTON, NORTH DAKOTA

OUR SOIL ★ OUR STRENGTH

DISTRICT SUPERVISORS:
Ray Hanson
Ray L. Kramer
Alois Leier
Wallace Nelson
Willmar Vander Vorst
XXXXXXXXXXX Secretary
Clark Lemley

October 3rd, 1975

RECEIVED
OCT 13 1975
State Planning
Division

Bureau of Land Management
U. S. Department of Interior
Washington, D. C.

To whom it may concern:

This letter is in regards to the Alaska Natural Gas Transportation System. This pipeline goes across our State and we feel strongly that our laws should be considered. Most of us in North Dakota make our living from Agriculture and consider this as an important contribution to the population of the nation.

We feel that the soil should be returned to the ditch in such a way that vegetation will grow over the pipeline. This will prevent wind and water erosion which we are sure will also help in the maintenance of the pipeline itself, and make the land useful and productive again.

We also feel that North Dakota should be given the advantage of use of gas transported accross the state to compensate for damages and loss resulting in construction and maintenance of the above proposed pipeline.

Yours very truly,
Wallace Nelson
Wallace Nelson, Chairman
Board of Supervisors
Emmons County Soil Conservation Dist.
Linton, North Dakota 58552

Lower Yellowstone Soil Conservation District
P.O. Box 365 · Fairview, Montana 59221 · Telephone 747-5646

October 8, 1975

RECEIVED
OCT 10 1975
State Planning
Division

State Planning Division
State Capitol
Bismarck, North Dakota

Dear Gentlemen;

Subject: Impact Statement on the
Northern Border Pipeline Proposal

We are writing in regard to the Northern Border Pipeline proposal, that has been proposed to cross the District boundary in the Buford-Trenton area that is a part of our Soil Conservation District.

We have received numerous inquiries by our District Cooperators as to the impact this pipeline will have on the irrigation District.

We understand that there would be many complications and also benefits but our biggest concern would be the wind and water erosion problem that will be caused by this proposed line. We are hoping you will take grave consideration with this area as it is entirely irrigated land which takes a little extra land treatment and its value is considerably higher than dryland or rangeland.

Sugar beets are their key crop and every consideration should be given to local land owners as to the problems to the laterals and canals that surround every land owner that lies along your proposed route. We strongly support all agencies and people involved within the concerned area but then we must also be critical of people or companies that want to overlook local needs and destroy local values.

We, the Supervisors of the Lower Yellowstone Soil Conservation District would appreciate it if your people that are front-runners for right-of-way and easement would consider meeting with us and the Directors of the Buford-Trenton Project, so every party concerned would have a knowledge of what would be expected of all land owners that would be involved in this tremendous project that is coming into this community and would effect the environment for years to come with this giant undertaking.

CC: Roger Sanders
RC&D Executive Council

Sincerely;
Mike L Flynn
Chairman of Board

RICHARD CROY
Cartwright, N.D.

MIKE L. FLYNN
Cartwright, N.D.

DAVE SCHLOTHAUER
Fairview, Mont.

MEMORANDUM

TO: The Commissioners

FROM: Reclamation Director E. J. Englerth

SUBJECT: Recommendations regarding Alaska Natural Gas Transportation Systems (Draft EIS)

DATE: September 5, 1975

The PSC takes the position that soil material removed from any pipeline trench must be removed in two (2) lifts (the first lift corresponding roughly to the A horizon), separately windrowed or stockpiled, and replaced on a last-out-first-in basis.

Seed sources for native grasses used must be restricted to the Dakotas, Montana, and northern Nebraska.

EJE

MEMORANDUM

To: Commissioners Elkin, Hagen, and Wolf

Fr: Siting Division, Al Bumann

Subject: Recommendations regarding Alaska Natural Gas Transportation System

Date: September 8, 1975

The feasability of right-of-way sharing with existing or proposed transportation systems shall be fully and completely explored.

STATE OF NORTH DAKOTA

COMMISSIONERS:
WARD WHITMAN, ROBINSON
CHAIRMAN
JACK K. DANIELS, WILLISTON
VICE CHAIRMAN
ALFRED C. PIETSCH, MINOT
SECRETARY
JOHN D. ODEGARD, GRAND FORKS
NICHOLAS F. SCHUSTER, FARGO

AERONAUTICS COMMISSION
Box "U" - Bismarck, N. D. 58501

Harold G. Vavra
Director

Telephone 701-224-2748

October 7, 1975

Ms. Bonnie Austin
State Intergovernmental Clearinghouse
State Planning Division
State Capitol
Bismarck, North Dakota 58505

Subject: Alaska Natural Gas Transmission System - Micro Wave Towers.

Dear Madam:

The Alaska Natural Gas Transportation System Draft Environmental Impact Statement proposes a system of about 88 micro-wave radio transmission towers with heights of from 200 to 300 ft. above ground level, of which about 14 would be located in North Dakota, in accordance with Part IV, Volume I of 3 (Pages V-034).

Page V-034 shows that the communication towers in North Dakota would be located at sites numbering 12 through 25.

The North Dakota Aeronautics Commission recommends that a "Notice of Proposed Construction or Alteration" be prepared by the applicant for each tower site on Federal Aviation Administration Form #7460-1, which will show the following information:

1. Location to nearest town and state.
2. Distance from such town.
3. Location by Latitude and Longitude.
4. Elevation of ground site above sea level.
5. Location and distance from nearest airport.
6. Height of supporting tower.
7. Overall height above sea level (land elevation plus tower height).
8. Whether the tower will be painted in accordance with standard aeronautical obstruction painting. FAA Circular 70/7460-1
9. Whether the tower will be obstruction lighted in accordance with federal standards (FAA Circular 70/7460-1).

Ms. Bonnie Austin - 2 - October 7, 1975

The Aeronautics Commission recommends that the applicant file the original of such "Notice of Proposed Construction" with the Federal Aviation Administration, Airports District Office, Box 2016, Bismarck, N.D. 58501, with a copy to the North Dakota Aeronautics Commission, Box U, Bismarck, North Dakota 58505.

This request is made in order that such tower locations may be reviewed before construction is undertaken to determine if such tower locations and heights pose any hazard to airports or other aeronautical activities in the State of North Dakota before the tower is constructed.

A copy of Federal Aviation Administration Form No. 7460-1 is attached to this letter.

Sincerely,

Harold G. Vavra,
Director

HGV:ak
Enc.

cc- Roy Cunningham, Chief
District Airport Office
Box 2016
Bismarck,North Dakota 58501

RECEIVED
OCT 7 1975
State Planning
Division

Cartwright, N. Dak.
October - 4th, 1975

Bureau Of Land Management
% Bonnie Austin
Bismarck, N. Dak.

Dear Sir:-

Sioux Township Board met in legal session on Oct. 1st, 1975, with all members present and authorized me as Township Clerk to write relative to our Township roads and bridges.

According to publicity it is our understanding that the Northern Border Pipeline Co. has made a preliminary survey to lay a pipeline from Alaska to Pennsylvania. We are concerned about this because the survey shows that the pipeline could pass through our Township. Thie would entail the use of our roads and bridgee with heavy equipment traveling on them. With this kind of traffic serious damage could be inflicted on our roads and bridges and also erosion can develope wherever this equipment travels.

As Officers of thie Township we deem it necessary to report to you the seriousness of this Pipeline venture.

We wish to be protected againet any damages inflicted upon the property of this Townehip.

Yours Resp't.
SIOUX TOWNSHIP
BY Chairman
BY CLERK.

NORTH DAKOTA STATE PARK SERVICE

FORT LINCOLN STATE PARK
ROUTE 2 BOX 139
MANDAN, NORTH DAKOTA 58554
PHONE 663-9571

October 7, 1975

Bonnie Austin
State Intergovernmental Clearinghouse
State Planning Division
State Capitol
Bismarck, North Dakota 58505

Dear Miss Austin:

The North Dakota Park Service and the State Outdoor Recreation Agency offer the following comments for your consideration regarding the Northern Border Pipeline Study.

We are particularly concerned about the pipeline crossing on the Little Missouri River. The 1975 North Dakota Legislature passed an act granting free flowing status to the Little Missouri River and designated it as the state's first state scenic river. The identified river crossing is located in a very rugged section of the North Dakota Badlands. Slumping and rapid erosion of soils in this area are very characteristic. We assume that in order for the river crossing to be made that a rather extensive area of the badlands must be contoured to a gently sloping topography to permit the laying of the pipeline. If this is not the case, sections of the pipeline will be exposed due to erosional factors.

We regret that the industrial firms involved in the pipeline proposal must see fit to route the pipeline through the southwestern portion of our state where the negative environmental factors are much greater than possible alternative routesin eastern or central North Dakota. It is our understanding that the pipeline routing was determined largely on the basis of projected coal gasification plants being located in the general area of the crossing. If feasible,some of the alternative routes should be more fully explored.

We would also recommend that trenching for the pipeline be conducted in two lifts, and that topsoil be segregated from the less desirable subsoils. Soil replacement should occur on a last out-first in basis.

Our review has indicated that no identified recreation areas or state parks will be directly affected by the proposal, however, we also recognize that the potential for future recreation sites is also diminished by the routing of this pipeline through our state.

We thank you for having had this opportunity to comment on the draft proposal.

Sincerely yours,

Gary Leppart

Gary Leppart
Director

GL/kmm

Comments
Draft Environmental Impact Statement
ALASKA NATURAL GAS TRANSPORTATION SYSTEM

Part V - Volume I, page 86 - "In those areas where the landowner required the topsoil to be separated, the subsoil will be replaced at the bottom of the trench, with topsoil being placed in the upper part and replaced over the graded right-of-way."

The opinion of the North Dakota State Soil Conservation Committee is that this should be a specific requirement for the entire route of the pipeline whether crossing federal, state or private land. We would strongly encourage the Federal Power Commission to include this requirement before construction is authorized.

Continuing on page 87, the environmental impact statement states: "All backfill will be solidly compacted at opencut roadways, at crossings of terraces and levees and at crossings of streams and ditches to minimize erosion." This commitment is good. However, we urge that this requirement be extended to include compaction on all lands including cropland, rangeland, pastureland, hayland and forestland. This practice will greatly reduce wind and water erosion, reduce the need for high mounds over the backfilled trench, and ultimately reduce maintenance and repair costs that could be caused from erosion on non-compacted lands.

Restoration of the right-of-way is most important. The establishment of vegetation should be done as soon as possible after backfilling and compaction. Technical assistance for re-vegetation can be obtained from the USDA-Soil Conservation Service through the Soil Conservation Districts. This assistance can be tailored to treat each situation according to its special needs that will provide the needed protection against wind and water erosion.

Once all construction is completed and the system becomes operational, the success of re-vegetation will continually be evaluated by the keen eye of North Dakota citizens.

Gary L. Puppe

Gary L. Puppe
Executive Secretary
North Dakota State Soil Conservation Committee

NORTH DAKOTA STATE HIGHWAY DEPARTMENT
Comments on Alaska Natural Gas Transportation System

There appears to be conflict or contradiction as to who obtains the necessary permits for highway crossings. On Page V-074 the contractor is responsible and on Page V-134 the applicant is responsible. It is our recommendation that the applicant obtain the permit for highway crossings. The basis for this recommendation is that the applicant would prepare plans and the type and manner of roadway crossings should be specified in the plans and the construction contract.

Crossings of all State Highways will be done by boring or jacking. The pipeline shall be encased at all road crossings.

The effects on roadways of high temperatures in the pipeline during the winter months is unknown. At a depth of 30 to 36 inches it is conceivable that the roadway surface above the pipeline would not be frozen at the same time as the remainder of the roadbed. This could create pavement break-ups and soft spots which would require continual maintenance . If the 30-36 inch cover is maintained in the bottom of the ditch and the pipeline is installed on a level grade under the roadbed then the temperature would probably not affect the traveled roadway surface.

Since a number of local roadways will be used to reach the pipeline during construction and these roadways are not designed for heavy truck traffic consideration should be given to restoration of roadways upon completion of the construction. Local units of government do not have financial or organizational capability to absorb these impacts.

9-25-75

C. G. WEHRUNG, AUDITOR
TELEPHONE NO. 842-3450
VIVIAN ROBERTS, DEPUTY

Office of the County Auditor
McKENZIE COUNTY
WATFORD CITY, NORTH DAKOTA 58854

September 26, 1975

RECEIVED
SEP 29 1975
State Planning Division

Northern Boundary Pipe Line

Re: Gas Line Crossing
McKenzie County

Gentlemen:

The Board of County Commissioners of McKenzie County are concerned with some of the problems that will exist on construction of a Gas Line crossing part of McKenzie County. They feel that where ever the line crosses a County or Township Road, the line should be well marked. While in the process of laying the line across roads, a detour should be made, so traffic will not be interrupted.

Also maybe a Bond should be posted to take care of any damage done to Township and County roads during construction of the Pipe Line.

Sincerely,

Board of County Commissioners
by Christ Wehrung, Secretary

Christ Wehrung

CW/pe

Statement From North Dakota State Department of Health, Environmental Health and Engineering Services Re: Alaska Natural Gas Transportation System Draft Environmental Impact Statement as Prepared by the United States Department of the Interior

The environmental impact statement states that the applicants will comply with all applicable state environmental control laws, regulations, rules and standards. In North Dakota, all construction, operational and maintenance activities will be required to comply with the State's air and water pollution control, solid waste, noise, and radiological laws, rules and regulations and standards that are in effect and are applicable.

For air pollution control, construction activities will need to comply with fugitive dust restrictions, open burning restrictions, motor vehicle emissions restrictions, and ambient air quality standards. In the area of regulation of operational activities, primary compressor stations will need to comply with the permit to construct and operate requirements. This includes approval of the location and design of installations prior to the start of construction, emission standards, and ambient air quality standards.

Similarly, the construction, operational and maintenance activities will be required to comply with the State's water pollution control and solid waste disposal requirements. This includes non-violation of the State's surface water quality standards, silt and sediment control from run-off, stream crossings, protection of groundwater and obtaining the necessary discharge permits.

The applicant has proposed to the Department of the Interior that certain mitigation measures will be taken. It appears that some measures have been based on estimates and are not site specific. They may not be adequate.

It is the responsibility of the applicant, that is, the Northern Border Pipe Line Company, to arrange a meeting with the North Dakota State Department of Health at an appropriate time. This will provide the company with a full understanding of the Department's requirements for carrying out its responsibilities for protecting the environment and the public.

RECEIVED
OCT 1 1975
State Planning Division

September 16, 1975

RECEIVED
OCT 7 1975
State Planning Division

Memorandum

To: Regional Director, Rocky Mountain Region

From: Superintendent, Theodore Roosevelt NMP

Subject: Review of Draft Environmental Impact Statement on the Alaska Natural Gas Transportation System

We have reviewed Part V, North Border, Volumes 1, 2, and 3, of the subject draft Environmental Impact Statement and have the following comments:

PART V, NORTH BORDER, VOLUME 1 OF 3

1.1.3.2 location, page V-021

North Dakota

If the proposed pipeline crosses twenty miles upstream (southwest) from Williston, North Dakota, it will be very close to Fort Union Trading Post National Historic Site and Fort Berthold State Historic Area.

Figure 1.1.3.2-1, Project Location Map - should show the Yellowstone River and its confluence with the Missouri River.

Figure 1.1.3.2-3. Location of Compressor Station and Communications Tower - No. 14 communication tower is very close to the northern border of the North Unit of Theodore Roosevelt National Memorial Park. For aesthetic purposes, it should not be skylighted near Theodore Roosevelt National Memorial Park.

Lead in power lines to compressor stations, measuring - delivery locations, communicationsfacilities, and mainline block valve installations should be undergrounded to minimize the visual impact.

PART V, NORTH BORDER, VOLUME 2 OF 3

V-865 - After the first paragraph, the Fort Buford Military post should be mentioned, particularly since the proposed pipeline crosses in the near vicinity.

Figure 2.1.3.13-2, Trails and Waterways - under potential for expansion of the Little Missouri River in addition to the comment, "to be studied for Natural Science and Wild River designation" add "river has already been designated as a state scenic river."

PART V, NORTH BORDER, VOLUME 3 OF 3

Page V-1333, Item 5 - the route adjustment suggestion (a) is totally unacceptable to us. This would place the 43" pipeline through the eastern side of the North Unit of Theodore Roosevelt National Memorial Park. The primary route is our choice as the alignment for the proposed pipeline. The Fort Berthold Route would cause less impact to the surrounding Badlands and Killdeer Mountain areas but would necessitate traversing a large segment of the Fort Berthold Indian Reservation.

Page V-1391, Item 2, History - a map should be included in this draft Environmental Impact Statement to show the location of all existing historic sites, landmarks, and other areas on the Register of Historic Places. The primary route of the pipeline will come dangerously close to either Fort Union Trading Post National Historic Site of the Fort Buford State Historic Site.

Pages V-1442 through 1454 - the Line 1 alternative route is not as aesthetically situated as is the primary one. The alternative would destroy much more badlands topography. It would come very close to the designated Two Top Mesa National Natural Landmark, which is the only area known in the North Dakota badlands that contains virgin grasses. The alternate route also appears to be immediately north of Theodore Roosevelt's Elkhorn Ranch Site which is a historic unit of Theodore Roosevelt National Memorial Park.

(SGD) JOHN O. LANCASTER

John O. Lancaster

JOLancaster:plt 09/16/75

Williston Basin Regional Council For Development
512 Fourth Avenue East
Williston, North Dakota 58801
Telephone (701)572-8191

CHAIRMAN
CARL HAUGEN
Williston, N. D. 58801

VICE CHAIRMAN
DIANE BERVIG
Williston, N. D. 58801

SEC. - TREAS.
KENNETH ENGBERG
Crosby N. D. 58730

EXECUTIVE DIRECTOR
RONALD KIEDROWSKI
Williston, N. D. 58801

RECEIVED
OCT 20 1975
State Planning
Division

October 16, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management
U.S. Department of the Interior
Washington, DC 20240

Gentlemen:

The Williston Basin Regional Council for Development has reviewed the draft Environmental Impact Statement for the Alaska Natural Gas Transportation System. The route proposed for the Northern Border Pipeline passes through two of the three counties in the Williston Basin region: crossing near the confluence area of the Missouri and Yellowstone rivers, through the Badlands, rough rangeland, near the Little Missouri National Grasslands, and crosses the Little Missouri River. All of these areas are unique to western North Dakota and are of high aesthetic value.

The Council herein expresses a series of concerns to the Department of the Interior in hopes that further investigation and study will be made in this matter to best protect the environment and lands along the pipline route.

1. Construction may disrupt the normal grazing patterns in the grasslands causing heavy grazing in portions of the area. Livestock movement patterns for watering and feeding will be changed. Open ditching can be hazardous to livestock.

2. The soils of the area are extremely fragile and subject to erosion. The prevailing winds in North Dakota are parrallel to the route which can increase erosion hazards. Compaction of the soils should be undertaken in all areas. The advice of the USDA-Soil Conservation Service through the local soil conservation districts should be utilized to the fullest extent in erosion control.

3. Water erosion is also a probable hazard, especially along the steep slopes of the Badlands and along the Little Missouri River. The trenching for the pipeline may hit underground water veins and cause piping. Testing should be undertaken to avoid any such water course disturbance and if piping should occur, all efforts should be taken to block off the waterflow.

4. The proposed route crosses a number of public roads and use areas. It is suggested that the applicants either post a performance bond or establish an impact fund to cover disruptions which are a burden on local units of government.

5. The pipeline will cross the Buford-Trenton Irrigation project causing disruption of the irrigation practices of the project. The fluctuating groundwater table in the project area may be a problem for the applicant in laying in the line.

6. The economy of McKenzie County is substantially based upon its grazing lands. Seismographic and other testing could dispute the existing water structure and change or close artisian wells upon which grazing is dependent. Further study and classification in this area is needed as the value of underground water sources is difficult, if not impossible, to assess.

7. Revegetation along the pipeline route may take several years in areas of fragile soils. Several critical factors in revegetation are the use of native grasses, having adequate topsoil, and fencing during the re-establishment period. We suggest the topsoil all along the route be stockpiled during construction and put back on the route when the project is completed. We also suggest that the expertise of the USDA-SCS and local soil conservation districts be used in identifying the native grasses to be used in revegetation. We thirdly suggest that the route be fenced until the new vegetation is well established and can support grazing. However, the type of fences used should be such as to not interfer with wildlife migratory patterns.

8. The temperature of the pipe and gas is also a concern. Further clarification is needed regarding depth of pipe and ground freezing. If the surface soils and road beds are not allowed to freeze, then soft spots could cause driving hazards and permanent maintenance problems, a cost which the townships and counties could not assume

9. In crossing all roads, the pipeline should be at a 90 degree angle with the road in accordance to North Dakota State Highway Department regulations. A crossing at less than a 90 degree angle will disturb a greater portion of the road and be more costly to construct.

10. Each year area rangers are concerned with a high fire index during the summer and fall months in the Badlands and grasslands. Pipeline construction work by its very nature would accentuate the probability of igniting coal seams which are exposed by pipeline construction. Fires of this type can continue to burn for indefinite periods of time.

11. The state of Montana and the United States Forest Service have criteria for fire protection within their boundaries. Outside of the Little Missouri National Grasslands in North Dakota, there is no state criteria for fire hazards. We urge the applicants to adhere to the criteria of the state of Montana or the United States Forest Service for fire protection along the entire pipeline route in North Dakota.

12. Housing in Williams and McKenzie counties is very tight at the present time with vacancy rates well below 5 percent. If pipeline construction employees are expected to compete with local residents for available housing, the situation will only worsen. In Alaska and Canada the applicants propose to provide housing for construction employees. We sugges the applicants for the Northern Border Pipeline segment contact local government officials to determine housing availablility and in those areas where local housing is unavailable, provide facilities for their employees.

13. The Missouri and Little Missouri Rivers and the Badlands have a rich history. A number of tribes of plains Indians lived in the area and the Missouri River played an important role in the expansion of the American northwest. Because of the nomadic lifestyle of the plains Indians, scattered archeological sites exist throughout the counties, although few have been identified.

    We urge that protective measures be taken to preserve presently unknown historical and archeological sites and the North Dakota State Historical Society be notified of all sites and finds.

14. The varying terrain and topography of Williams and McKenzie counties offer the viewer an expansive vista. Many tourists visit North Dakota annually to view the Badlands and enjoy the prairie open spaces. The aesthetic value of the Badlands and prairies is unmeasurable. The pipeline will have a great adverse effect on the aesthetics of these counties. The tunnel vision along the pipeline route will detract from the overall beauty.

    One area of special aesthetic value is the Little Missouri River. Efforts are underway to have the Little Missouri designated as a Wild and Scenic River. Very few rivers exist in their free flowing state and those remaining must be preserved.

15. The Council asks that before leases are obtained or the project is undertaken along the pipeline route meetings be set up between the applicants and the individual landowners to determine access, process of construction and probable extent of disruption and damages that will occur.

It is the hope of the Regional Council that the concerns herein expressed would be greater detailed and resubmitted for local consideration before the project is finalized. The Council is aware of statements and comments regarding the pipeline submitted by the Alexander-Arnegard Soil Conservation District, Lower Yellowstone Soil Conservation District, and the Buford-Trenton Irrigation District. The Council would also like to see responses to these concerns.

The Williston Basin Regional Council for Development at its meeting of October 15, 1975, with the motion made by Kenneth Engberg and seconded by Cecil Daniels agrees to the transmitting of these concerns as herein stated.

Sincerely,

WILLISTON BASIN RC & D

Carl Haugen

Carl Haugen, Chairman

North Dakota Wildlife Federation

Publishers of FLICKERTALES
North Dakota's Leading Environmental Publication

200 West Main
P. O. Box 1694
Bismarck, North Dakota 58501

September 11, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

Enclosed are the comments of the North Dakota Wildlife Federation, Inc. on the DEIS, Alaska Natural Gas Transmission System.

We request that these comments be considered when the final report is prepared and that they be included in the record.

Sincerely,

NORTH DAKOTA WILDLIFE FEDERATION, INC.

Betty Morgan

Betty Morgan
Executive Secretary

National Hunting & Fishing Day
SEPTEMBER 27, 1975

encl.

North Dakota Wildlife Federation

Publishers of FLICKERTALES
North Dakota's Leading Environmental Publication

200 West Main
P. O. Box 1694
Bismarck, North Dakota 58501

Phone 223-8741

September 10, 1975

COMMENTS

NORTH DAKOTA WILDLIFE FEDERATION, INC.
on
Draft Environmental Impact Statement
Alaska Natural Gas Transmission System,
Part V, North Border, Volumes 1, 2 & 3
of 3

The North Dakota Wildlife Federation, Inc. is a non-profit citizen's organization made up of some 7,000 members concerned with sound resource management and perpetuation of a healthy environment. We wish to express our appreciation for the opportunity to comment upon this report.

Since the Federation does not have a technical staff, its comments will be confined to general observations and recommendations. These will be addressed to that part of the proposed pipeline crossing North Dakota.

The Federation's greatest concern is the route of the pipeline. It is noted that six routes are being considered across our state. Any route which would cross the fragile badlands area along the Little Missouri River would be opposed by our organization. This area is one of the main tourist attractions and one highly valued by residents throughout the state. Line 5a, which would run east across the northern part of the state, would necessitate fewer river crossings and encounter less steep slopes. It would, all things being considered, be favored by the Federation. Crossing the Little Missouri River at any point would be opposed by our organization as would the National Grasslands area in Richland and Ransom Counties. This sand dune area could not tolerate the ditching and travel required to put in a pipeline.

Soils are another concern of the Federation. It is noted that North Dakota will be asked to provide more right-of-way acreage than any other state. Much of each proposed area runs through agricultural land. Since the pipeline trench will be from seven to ten feet in depth, it is recommended that the top five feet be segregated and replaced on top as the fill takes place. This would conform to the recently enacted legislation governing strip-mine reclamation. Every effort should be employed to minimize disturbance of soil density and interference with gravity flow irrigation. Trench wind and water erosion should be prevented by establishing cover as soon after refill as possible.

Wetlands adjacent to the proposed line will suffer. It is noted that (at least in some instances), on some slopes earth may be moved a distance of several hundred feet from the trench. The "dredge and fill" provisions presently requiring a permit from the U.S. Corps of Engineers should be adhered to here. Drainage of wetlands should be held to a minimum and no filling of natural reservoirs should be tolerated.

Habitat of upland wildlife species will be ruined on pipeline rights of way and by establishment of access roads, compressor stations and permanent facilities.

No woody cover will be allowed within the right of way. It is recommended that this habitat should be replaced by the applicant in amount and kind.

Air Pollution, always a concern of the Federation, will be increased by transporting gas across the state. Venting, leaks and other accidental emissions are bound to occur. Combustion products and unburned hydrocarbons from intermittent emissions will add their pollutants to those of lignite burning electric generating plants and others producing synthetic gas. Although the contributions of the pipeline may be small, the state must protect itself from pollutants in the aggregate. It is noted that discharges of from 10,000 cubic feet per minute upward may occur when it becomes necessary to discharge high pressure methane into the atmosphere. To this Federation, such pollution in such amounts is absolutely unwarranted and technology must be employed to prevent this waste and lower air pollution from this source. Nitrogen oxides resulting from fuel combustion are both high in toxicity and remain in the atmosphere for long periods. Every effort should be employed to minimize this pollution.

Water Quality Degradation is bound to result from the pipeline. However, the Federation recognizes that erosion and pipe flushing can be controlled. Such methods as elimination of as many river crossings as possible and routing away from steep slopes should be given high priority.

We appreciate the fact that most conservation and environmental problems have been addressed in depth in this draft statement. Generally, we believe the statement quite good.

We request that these comments be considered when the final report is prepared and that they be included in the Record.

NORTH DAKOTA *Farmers Union*

Box 651 – Jamestown, North Dakota 58401 – Phone: 252-2340

October 1, 1975

RECEIVED
OCT 2 1975
State Planning Division

State Planning Division
Capitol Building
Bismarck, North Dakota 58501

Dear Sirs:

Enclosed is a resolution of the Dunn County Farmers Union in relation to standards which they believe should be applied to the development of the Northern Border Pipeline.

The resolution has been forwarded to the Bureau of Land Management, Alaska Natural Gas Transportation System, EIS Task Force in Washington, D.C.

Your support of these standards would be greatly appreciated by the Dunn County Farmers Union.

Yours truly,

NORTH DAKOTA FARMERS UNION

Karl Limvere
Communications Coordinator

KL:me
Enclosure

The Dunn County Farmers Union respectfully requests that the following standards be required of Northern Border Pipeline as a means of insuring protection of the natural and human environment in their proposed pipeline facility through North Dakota.

1. Payments should be made to surface owners and users every ten years for right-of-way easements. Such payments should be coupled to an inflation index.

2. The rights of tenants and surface users other than landowners should be protected. Tenants should be entitled to payments for damages and loss of income during the easement period.

3. The Northern Border Pipeline should comply with both county and state regulations concerning siting and land use planning and zoning.

4. To insure continued soil productivity, all measures should be taken to preserve existing soil profiles through the separation of topsoil and subsoil for subsequent restoration by stratification.

5. Soils removed should be stockpiled every quarter mile for subsequent restoration activities.

6. Easement payments should be made within sixty days of the signing of the easement contract or otherwise considered invalid.

7. North Dakota consumers should be given a priority use for a stated percentage of natural gas flowing through the pipeline.

8. Land easements and payments should be uniformly established and be based on soil classifications and present production uses.

9. The pipeline, compressor station, or other facilities of the pipeline should not be located within 500 feet of present farmsteads or farm buildings.

Dunn County Farmers Union Board of Directors
Amos Wike, Manning, ND, President
Charles Dvorak, Manning, ND, Vice-President
Mrs. Amos Wike, Manning, ND, Secretary
Mrs. Charles I. Dvorak, Gladstone, ND, Director
Mrs. George Hurlnenko, Manning, ND, Director
Alfred Johnson, Werner, ND, Director
Richard Lefor, Gladstone, ND, Director

CITY OF SPOKANE, WASHINGTON

SPOKANE

CITY PLAN COMMISSION
Donald M. Oliason, President

SPOKANE CITY ZONING BOARD
A. S. Brown, Chairman

August 13, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (320)
U. S. Department of the Interior
Washington, D.C. 20240

Dear Sir:

I have briefly reviewed the Environmental Impact Statement for the Alaska Natural Gas Transportation System. My particular concern is the West Coast leg that passes adjacent to the City of Spokane. The proposed pipeline will be installed over the underground aquifer that is the source of the City's water supply.

The Environmental Impact Statement does not address the effects this pipeline could have on the aquifer and any mitigating measures that need to be taken. We would be most willing to supply you with what information we have on the aquifer should you desire it.

We also believe there should be some suggested mitigating measures to reduce any deleterious effect on the flora and fauna of fragile sub-arctic areas where this could occur. We note mention of the danger but nothing as what can be done to minimize its impact. I would think it appropriate that authorities in Alaska and Canada would be happy to suggest measures to reduce the impact.

Sincerely yours,

E. Terry Clegg
Planning Director

ETC:tas

cc: Jose Urcia, Director, Spokane Regional Planning Conference

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THE STATE OF NEVADA
EXECUTIVE CHAMBER
CARSON CITY, NEVADA 89710

MIKE O'CALLAGHAN
GOVERNOR

November 4, 1975

Mr. Roman H. Koenings
Project Manager
EIS Task Force
Alaskan Natural Gas Transportation
System
U.S. Department of the Interior
Bureau of Land Management
Washington, D.C. 20240

Dear Mr. Koenings:

Review of the Alaskan Natural Gas Transportation Systems EIS by affected State agencies in Nevada has been completed. Attached are technical deficiencies which are to be addressed if the pipeline is to be built in the proposed location.

Nevada feels strongly that if our state is to be utilized as a land bridge for this pipeline, some energy benefits, such as direct tap(s) or other guarantees of natural gas from alternative sources, be provided to help offset the environmental impacts that will result.

Sincerely,

Mike O'Callaghan
Governor of Nevada

Attachments

Alaskan Natural Gas Transportation Systems

Technical Comments

1. Pages IV-936-938. Description of Nevada portion of route omitted.
2. Page IV-952, Figure 1.1.5.2-6. Tonopah is in Nye County.
3. Page IV-1049, second line. Santa Rosa Range.
4. Page IV-1585. Nevada State Park should read Berlin-Ichthyosaur State Park.
5. Page IV-2017. Paragraph A states "... 158 miles longer than preferred route", yet VI-419 states the east alternative route "... is about 25 miles longer."
6. On page IV-996, a statement ends with "... revegetating where required." Elsewhere in the document, recognition was made of the fact that Nevada's desert land is fragile. Revegetation within Nevada would be a mandatory requirement.
7. On page IV-998, reference is made to work camps. These sites fall under regulations of the Consumer Health Protection Services of the Department of Human Resources.
8. On page IV-1008, a statement says that no plans have been made for site restoration. Restoration provisions should be mandatory if a contractor is allowed to salvage the pipe.
9. Page IV-1705 states, "New access roads would be constructed only as a last resort." This should be strictly observed and construction roads should be abandoned in a manner that would assure no further use.
10. Figure 3.1.5.9-11 on page IV-1741 indicates sizeable taxes for the counties involved. For many of the Nevada counties, those figures would have great impacts, especially when the pipeline is abandoned. Further analysis of the negative economic impacts at time of abandonment should be made.
11. Plans for disposal of solid waste and locations of work camp sites must be submitted to the Department of Human Resources because of the large impact that solid waste and sewage disposal would have on the small communities in the state.
12. Page IV-994 is the same as page IV-993. Information that is missing should be provided for review.
13. Because the river crossing on the Humboldt River will probably happen at low flow, the agency is reminded that the allowable temperature increase above natural conditions is only 3°F since the water from the pressure test would be warmed by the ambient conditions at that time of year.

14. This document never clearly indicates what the firing rates are for the compressor stations. Calculations from various pages indicate different heat input requirements. Any compressor unit located in the State of Nevada that has a firing rate of greater than 1×10^6 kilogram calories (4×10^6 BTU) per hour must be registered in accordance with Article 3 of the Nevada Air Quality Regulations (NAQR).

15. During construction, any source of equipment that is covered by the Nevada Air Quality Regulations shall be registered. Any fugitive dust resulting from construction must be controlled as covered in Article 7 of the NAQR.

16. Open burning is not permitted at the discretion of the contractor constructing this pipeline. Any open burning must be in accordance with Article 5 of the NAQR.

17. In section 2.1.5.14 Ambient Air Quality page IV-1594, a contradictory statement appears in relation to potential air pollution incidents. If areas of differing incidences occur over the route of pipeline, it should be noted as to high or low potential and the location.

18. There appear to be deficiencies in the sections dealing with air quality, specifically with the compressor units' size and specifications. More specific measurements dealing with air quality meteorological data should be gathered prior to any construction.

19. The occurrence of wildlife along the pipeline route and their relative importance is fairly well covered; however, there is no documentation on the actual importance, i.e. harvest, angler and hunter days, etc. Also, no mention is made concerning their value in the socioeconomic section.

20. Specifics that are mentioned concerning the impacts on wildlife include loss of habitat along the right-of-way, siltation, turbidity and potential water quality degradation at stream crossings, and wildlife disturbance and harassment. No mention is made as to the method of treatment to be used in sterilizing the water that will be imported into the State during the line testing period, and this is of major concern. Undesirable aquatic diseases of viral, bacterial and parasitical origin, along with potential introduction of undesirable aquatic life, both fish, amphibians, reptiles, molusks and crustaceans, could occur. Further elaboration is required as to how this problem will be overcome.

21. Indication is made that at least four sage grouse strutting grounds will be crossed. Along the right-of-way, access will be provided to what are now remote areas. Approximately six square miles of bighorn sheep habitat will be lost in the MonteCristo Range. Mitigating measures shall be taken to avoid these areas.

22. Mineral potential should be determined along the final route before construction is started.

OFFICE OF THE SECRETARY
RESOURCES BUILDING
1416 NINTH STREET
95814
(916) 445-5656

Department of Conservation
Department of Fish and Game
Department of Navigation and Ocean Development
Department of Parks and Recreation
Department of Water Resources

EDMUND G. BROWN JR.
GOVERNOR OF
CALIFORNIA

Air Resources Board
Colorado River Board
San Francisco Bay Conservation and Development Commission
Solid Waste Management Board
State Lands Commission
State Reclamation Board
State Water Resources Control Board
Regional Water Quality Control Boards
Energy Resources Conservation and Development Commission

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

NOV 2 1975

Mr. Roman Koenigs
U. S. Department of the Interior
Bureau of Land Management
Washington, D. C. 20240

Dear Mr. Koenigs:

The State of California has reviewed the "Draft Environmental Impact Statement, Alaska Natural Gas Transportation System", dated June 1975, which was submitted to the Office of Planning and Research (State Clearinghouse) in the Governor's Office in accordance with Part II of the U. S. Office of Management and Budget Circular A-95 and the National Environmental Policy Act of 1969.

The State's review was coordinated with the Departments of Conservation, Fish and Game, Food and Agriculture, Transportation, Health, Navigation and Ocean Development, Parks and Recreation, and Water Resources; the Division of State Lands; the State Water Resources Control Board; the Air Resources Board; the Solid Waste Management Board; the San Francisco Bay Conservation and Development Commission; the California Coastal Zone Conservation Commission; The Reclamation Board; and the Energy Resources Conservation and Development Commission. Our comments on the draft statement are set forth below.

GENERAL COMMENTS AND CONCERNS

The State of California is well aware of the critical problem of the State's near-term gas shortage and considers the future of natural gas development to be of the highest priority. Every effort must be made to meet the shortage but not without giving full consideration to all policy options. Some of these options are development of alternative energy sources and energy conservation.

The present supplies of natural gas in and to California will continue to decline. It is essential, then, that federal policy makers and/or Congress, reach an early decision on a natural gas transportation route and system. California urges delivery of North Slope gas at the earliest possible date to supplement the declining sources.

The State of California finds it difficult to review major energy proposals independent of any federal energy policy or any apparent concerted effort by one federal agency to relate its own proposals to energy facilities proposed by other agencies. Examples are (1) development of geothermal resources on California lands; (2) leases of outer continental shelf for oil production; (3) transportation of liquefied natural gas (LNG) into California; (4) use of coal and oil shales in other states that would serve California's energy needs; and others.

The Alaska Natural Gas Transportation System is one of two proposals for delivering natural gas from Alaska to the continental United States, the other being a pipeline across Alaska with a LNG tanker route to Southern California. The EIS contains little, if any, discussion of this major alternative proposal by El Paso Natural Gas Co. which is yet to be formally considered by the State.

The Statement does not adequately take into account gasification projects in Northern New Mexico and imports of LNG from Indonesia. Both of these projects are proposed by the same parent company that would build the Arctic facility.

The State recognizes the impending need for additional supplies of natural gas for both California and the remainder of our nation. The State is most willing to work with appropriate federal authorities to determine the best route and system for transporting that supply, and resolving all other energy issues of common concern. But this can be done only if all possible options are presented for discussion as part of the pipeline proposal.

The State would like to suggest that in order to resolve this problem, representatives of the Bureau of Land Management, the Federal Power Commission, and the State join in a series of federal-state hearings and decision-making meetings in California to consider all proposed natural gas facilities, once the full facts on each are known. It would appear that this same situation also exists on a national basis.

The State recommends that the final environmental impact statement (EIS) respond to the concerns and include the views as set forth in these comments. Because of the concerns expressed below, we will defer expression of our final views on all issues until such

time as the final environmental impact statement is filed under the provisions of the National Environmental Policy Act of 1969, and the alternative proposals are fully explored. It is hoped that considerably more data will be available on which to base our final position on this and related matters.

SIGNIFICANT ISSUES

1. Inadequate information concerning water quality and mitigation measures.
2. Inadequate information relative to fish and wildlife.
3. Inadequate discussion and evaluation of feasible major competing systems, i.e., LNG (liquefied natural gas) by the large transportation ships.
4. Inadequate discussion of secondary impacts of the proposed project.
5. Inadequate description of the pipeline rights-of-way.
6. Inadequate discussion of seismic activity and other geologic hazards.
7. Inadequate discussion of health dangers and proposed mitigation measures.
8. Inadequate description of alternative routes within California with regard to the environmental setting and potential impacts.

DETAIL COMMENTS

Following are more detailed comments as provided by state organizations and/or by specific subjects.

Energy Resources Conservation and Development Commission Comments

The Energy Commission views the Draft EIS as a document that can help answer the following questions:

1. Is the project needed?
2. What are alternatives to the pipeline itself?
3. What are alternative routes the pipeline may take?

Is the project needed?

Little doubt remains regarding the need for additional supply. California will be dependent upon external sources of natural gas since we can provide only 23 percent of our total demand.

What are alternatives to the pipeline?

The Draft EIS is inadequate in its discussion of feasible alternatives to the pipeline. The transport of Alaskan natural gas via an LNG system was barely mentioned. A report from the Department of the Interior entitled, "Alaskan Natural Gas Transportation Systems, Economic and Risk Analysis, Conclusions and Results", compared the two systems economically, but did not present any material regarding public health and safety, environmental, or social factors.

Conservation will obviously not serve as an alternative to the entire project. Some assessments should be made regarding what percentage of estimated supply, if any, can be replaced or stored as a result of several levels of conservation methods.

What are alternative routes the pipeline may take?

The Draft EIS mentions a limited number of alternative routes within California. The alternatives mentioned in the report are not adequately described with regard to the environmental setting and potential impacts.

Answering the three questions stated above will require the following data:

- Discuss the comparisions between pipeline transport of Alaska natural gas and LNG transport. The economic questions have been addressed in a separate report, but the health, safety, environmental, and social questions remain unanswered. Also address the impacts of the total flow of gas through California that each of these alternatives represents.

  Since LNG represents the most viable alternative to the pipeline, the opinions, actions, and comments of involved agencies should be based on something more than the cursory comments in the Draft EIS.

- Discuss the effects that short and long-term conservation methods (administered, regulatory, and voluntary) will have on the project. What is the relationship of each of the conservation methods to total demand? What is the relationship of demand (as affected by conservation methods) to supply?

- Describe the alternative routes within California in the same level of detail as the proposed route. Give equal consideration to the setting and potential impacts of each route so that a fair comparison can be made. Also, include a map or description of all electrical generating facilities impacted by the proposed and alternative routes.

- Since recent developments have altered the appearance of the project within California, comprehensive information regarding the description of the new proposal and its environmental, social and economic impacts are needed. Should existing pipeline systems be considered in any new alternatives, describe their current use and the impacts of their use for natural gas transportation. If a current use will be displaced, discuss any actions, facilities, etc. needed to accommodate continuation of the displaced use. also include the effects of discontinuing any displaced uses.

- Will gas currently being supplied to California from the Southwestern states be displaced by more expensive Alaskan gas? If so, what effect will this have on California ratepayers?

- What impacts will FPC curtailment policies have on California's natural gas supply?

Water Quality Concerns

The draft statement identifies many potential adverse effects on the quality of surface waters in the State of California. Most of these effects should be reduced or avoided by proper attention to construction practices suited to the local terrain, but the statement is general and, in some places, vague in its description of construction and operation near rivers, streams, and other bodies of water.

Disturbances of streams and rivers are described as short-term and as leaving no permanent effects. If such short-term disturbances within stream beds occur over a period of several weeks, it may become necessary to adopt waste discharge requirements in order to protect beneficial uses. As described in the draft statement, release of fluid from hydrostatic testing may result in discharge of significant amounts of pollutants directly to surface waters. Such releases may be considered as point source discharges requiring National Pollutant Discharge Elimination System (NPDES) permits.

Stream crossings and sewage disposal facilities associated with compressor and maintenance stations will require reports of waste discharge to be filed with the appropriate California Regional Water Quality Control Board. Precise plans for perennial stream crossings will be necessary for assessment and approval.

A more complete description of the chilling facilities at compressor stations should be presented to indicate the type of process used and whether a waste fluid is discharged from the process. Impacts of any such discharge would require description in the environmental statement.

The draft statement claims that, with proper precautionary measures, the adverse effects on water quality can be greatly limited. No specific measures are described in the statement to show how this would be accomplished or what residual impacts would exist after all appropriate precautionary measures had been employed.

A more specific discussion of mitigation measures and residual impacts should be included, preferably with a table indicating the most probably sites for each type of problem by cross reference to the strip maps.

The discussion of impacts associated with the tanker transported LNG alternative is fragmentary and poorly edited. Frequent typographical errors and errors in the table of contents for this section decrease its usefulness. The assessment of the effects of major LNG spills should be extended to cover true worst case incidents, that is, combinations of spill volume, season, location, and associated weather conditions which would create the largest reasonably predictable damage. Specific attention should be given to problems associated with increased ship traffic off the California coast and the effects of massive LNG spills accompanied by ignition in the transhipment ports.

Fish and Wildlife Concerns

Department of Fish and Game has reviewed the statement and finds it inadequate in the following areas:

1. The discussion in the Environmental Setting section regarding plant and animal species found within the proposed route corridor is too broad in scope. As a result, it is extremely difficult to ascertain which species are found in California relative to determining which species will be affected and to what degree.
2. The description of the proposed route is much too vague to specifically assess the project's impact on fish and wildlife resources.
3. Information provided on pages IV - 1283 and IV - 1284 concerning tule elk is inaccurate in that this species does spend time within mountain areas. The herd currently (August 1975 census) consists of about 400 animals.
4. Desert Bighorn should be shown as also occurring within the Inyo and White Mountains.
5. Discussions of the location of tule elk calving grounds for the Bishop, Tinemaha, Independence and Lone Pine herds should be included so that project impacts to these critical habitat areas can be adequately evaluated.
6. A more thorough discussion of the range of the endangered Mohave ground squirrel and the kit fox within the project's area of influence should be included. In addition, the threatened Paiute cutthroat trout (Salmo clarki seleniris) and the Inyo black toad (Bufo exsul) were not even mentioned and should be included.
7. Revegetation of the pipeline route as discussed on Page IV - 1421 should involve only native plant species indigenous to the area and having benefit to wildlife. Use of exotics provides very little benefit to wildlife and unless this type of vegetation is maintained by an adequate watering program, it will be rapidly displaced by less desirable native plant species which have little wildlife value.
8. Page IV - 1920 mentions the formulation of a "...technical interdisciplinary team to analyze specific environmental information and make recommendations as to preferred route locations." The California Department of Fish and Game should be represented on the team.

9. The report did not specify what specific mitigation measures would be taken to compensate for the project's adverse impacts on the State's fish and wildlife resources. The report should be amended to include a description of the mitigation measures that would be implemented to compensate for these losses.

The proposed transportation route will result in significant impacts to fish and wildlife resources. If this "Gas Transportation System" is adopted, the State would recommend that the alternste route as proposed by the U. S. Forest Service (Page IV-1928) be implemented. This route would pass through Montgomery Pass in Nevada and would then parallel Highway 6 to Bishop and then Highway 14 through Inyo County. Adoption of this route would avoid significant impact on populations of the rare Inyo black toad, populations of the threatened Paiute cutthroat trout, tule elk calving grounds, critical wildlife watering sources, deer summer range and would eliminate the need to place a road within an area currently designated as roadless.

As we understand this project, it only involves the selection of a pipeline route for inland conveyance of natural gas from Alaska to California distribution points. Another method of achieving the same objective is also being studied by others and involves the use of liquefied natural gas transport ships with associated coastal berthing facilities at either Point Conception, Port Hueneme or Terminal Island. We believe the transportation of liquefied natural gas by large transport ships could pose a serious threat to California's marine resources.

Department of Fish and Game personnel are available to discuss with the project sponsor our concerns and reasonable fish and wildlife compensation measures that could be implemented concurrently with the project. Please contact E. C. Fullerton, Director, Depsrtment of Fish and Game, 1416 Ninth Street, Sacramento, California 95814 (916-445-3535) if a meeting is desired.

Air Resources Concerns

The environmental impact statement (EIS) does not address adequately the secondary impact of the proposed project. Secondary impacts, in contrast to the direct impact of construction and operation of the project, include the environmental effects resulting from indirect or induced changes in population and economic growth, and land use. The EIS fails to determine the secondary impact of supplying this enormous amount of natural gas to the California market area.

The EIS needs, therefore, to analyze, aa required under the National Environmental Policy ACT (NEPA), the secondary consequencea of the proposed pipeline. Furthermore, the EIS would be improved if it included an evaluation of the "growth-inducing impact of the proposed action" as is required in the California Environmental Quality Act of 1970 (CEQA).

The natural gas supply deficiencies and demand forecasts presented in the EIS are based on the assumption of continued population and industrial growth and a corresponding decline in existing sources of natural gas. This basis needs to be considered carefully. If energy independence is to be achieved, wasteful uses of energy must be eliminated. We must avoid past pitfalls and change the way we grow by living within our carrying capacity through planned growth and development. The emphasis should not be entirely on finding and developing new sources of energy. Supplying more energy now may eventually lead to later and more severe energy, economic, or air quality problems. Efforts and incentives to conserve and more efficiently utilize our existing energy supplies need to be developed and implemented.

It needa to be realized that our energy, economic, and environmental problems stem from the same source -- our present patterns of population growth and development. It is our current growth patterns and trends that conatitute the interrelationship between energy shortages, economic chaos, and unhealth air quality. Curtailment of natural gas supplies, for example, would and does have a direct effect on industrial slow-downs or shut-downs and lay-offs. Excesses of natural gas (energy) on the other hand perpetuate our present growth patterns and life styles which currently waste our natural and energy resources. The serious air pollution health problems now being experienced in both of the California pipeline terminal areas can be eaaily traced to previous urban and suburban growth patterns. These urban "sprawl" patterns have resulted in the present reliance on motor vehicles for transportation in the two California market areas. Supply of natural gas (energy) to these areas would further encourage the present development trends. Availability or shortages of energy significantly influences how efficiently it is wasted or used. The proposed project would make more energy available and thereby removes a major constraint to further growth and development.

Conservation measures need to be integrated into this new energy source. It is important, therefore, that the EIS determine what effect the 2.4 bcf/d of gas will have on population growth patterns and industrial development.

State Lands Division Concerns

The State Lands Division offers the following comments on the subject EIS for portions of the proposed project within California.

1. That portion of the pipeline which terminates in Antioch, Contra Costa County, crosses portions of the Sacramento and San Joaquin Rivers; both of which are under jurisdiction of the State Lands Commission. Portions of these rivers have been found to contain significant environmental values as required by Section 6370, et. seq., of the California Public Resources Code. The report does not contain any adequate discussion of the impacts associated with the crossings of each river and lake.

2. That portion of the pipeline which terminates at Cajon, San Bernardino County, appears to cross a portion of Owens Lake which is under jurisdiction of the State Lands Commission. In addition, the pipeline appears to cross a portion of the Owens River, which is under jurisdiction of the State Lands Commission and contains significant environmental values under Section 6370.

3. Additionally, the pipeline crosses many small creeks and other waterways which may be navigable and subject to the Commission's jurisdiction.

4. The pipeline right of way is not accurately described in the report. The Antioch pipeline appears to traverse at least 15 townships, and the Cajon pipeline 30 townships, in which the State has an interest in unsold school lands; however, we are unable to determine which sections within the townships the pipeline crosses. Additionally, most of the school lands in these townships have been identified as containing significant environmental values.

5. Inasmuch as the EIS does not adequately describe the pipeline right of way, the Division cannot accurately determine the environmental considerations that necessarily need to be met before the State Lands Commission could act on the pipeline project. This report is not in a form that the Commission could adopt as its own in lieu of an Environmental Impact Report (14 Cal. Adm. Code Section 15063).

Seismic and Geologic Concerns

The California Division of Mines and Geology finds that the report is not adequate, because the potential effect to the environment and to the facility due to failure of the pipeline as a result of seismic activity and other geologic hazards is not clearly stated.

The pipeline passes through major rivers, steep slopes, flood plains, and through seismic zones which range to magnitude 8.3 on the Richter scale. Ground failure due to seismicity includes ground rupture, fault displacement, liquefaction, landsliding, and settlement.

The statement, "All of the problems of construction and operation created by geologic occurrences are within the realm of engineering feasibility", is not consistent with another statement, "Some of the design concepts not considered to be adequately addressed by the applicants are identified as follows...", and lists pipeline safety factors, mass wasting, river crossing integrity, subsurface soil information, and seismic monitoring.

Comments of The Reclamation Board

The vast undertaking will cross numerous tributaries of our river systems. The rivers in particular are the Pit, Sacramento, San Joaquin, and Cache Creek. The sponsor should be advised of the need for approved application from The Reclamation Board prior to construction in or near the designated floodways or project levees or across the above named streams with the exception of the Pit River.

For applications and information contact the Secretary of The Reclamation Board, Central District, Department of Water Resources, 3251 S Street, Sacramento, California 95814, telephone (916) 445-9225.

San Francisco Bay Conservation and Development Commission Concerns

The Commission staff has reviewed the statement in light of the Commission's policies as indicated in the McAteer-Petris Act, the Bay Plan, and the Commission's guidelines on the preparation of environmental documents and has several comments.

Although the proposed 42-inch diameter pipeline crosses the Sacramento River four miles above the eastern edge of the Commission's jurisdiction, the Commission staff feels that there are concerns relating to BCDC jurisdiction which need to be addressed.

In view of the information disclosed relating to the impacts of the pipeline construction and testing, the Commission staff questions whether these detrimental impacts on the Sacramento-San Joaquin Rivers could be considered as "low". The staff is particularly concerned with the hydrostatic testing that would be required and the effects of some one million cubic feet of contaminated water on the Bay system. Since the statement does not elaborate on the quantities or toxicity of the contaminants that might be released during these tests, the Commission staff cannot properly evaluate the impacts of this process. It is suggested that the final statement discuss any possible contamination and recommend methods for lessening or mitigating the resultant impacts. Since nearly all of the fresh water entering the estuarine system of San Francisco Bay pass the crossing of this pipeline, the staff feels that the EIS should more seriously consider the physical effects of the construction and testing on the water quality of the Bay.

The Commission's concern for the quality of the fresh water inflow into San Francisco Bay is expressed by Policy Amendment No. 2 to the San Francisco Bay Plan, a copy of which is enclosed as Attachment No. 1. Although this policy was developed to mainly deal with diversions from the Delta system, it is directly relevant to any contaminates that might be introduced into the system from pipeline construction or testing.

It is realized that under the requirements of NEPA a DEIS is not required to discuss either the growth-inducing impact or energy conservation aspects of a project. Since construction of this pipeline in California will be undertaken by corporations subject to the permit requirements of various local, county and state agencies, it would be appropriate that the EIS address these aspects as required by the California Environmental Quality Act (CEQA). In this regard, we are particularly concerned that the DEIS does not discuss the growth-inducing impact of the project on the San Francisco Bay Area. Even though it is stated that the Antioch line will have the capacity of 1.2 billion cubic feet per day, this is not related to the existing or projected demand for this service area. The total project seems to be justified only on the basis of overall demand figures for the United States; therefore, it would be helpful if the DEIS related the proposed pipeline capacity to existing and projected demands for natural gas in the Bay Area.

There is apparently no discussion on the relationship of this project to other kinds of energy sources that are projected or proposed for the Bay Area. In other words, will this project reduce the need for additional tanker traffic into San Francisco Bay to service either existing or proposed refineries, power plants and/or other industrial facilities? For example, will the pipeline affect the liquid petroleum gas (LPG) terminal now contemplated for the West Contra Costa County shoreline?

It is possible that the project could have a beneficial effect on San Francisco Bay. This is not discussed in the DEIS and we believe it should be.

California Coastal Zone Conservation Commission Concerns

The Commission has several general comments which are discussed below. Attachment No. 2 indicates the Commission policies regarding LNG terminal siting and design.

1. The Coastal Commission's principal direct concern relates to the principal alternative to the proposed Arctic Gas system--the trans-Alaska pipeline and LNG shipping system with a California LNG receiving and regasification terminal. It is clear that both the proposed system and the principal alternative will have substantial adverse environmental impacts. The Commission has not yet reviewed the relative overall economics of the two systems, or attempted a comparison of the respective impacts. It may be that the alternative involving LNG transport to California would provide greater flexibility in providing delivery capability from other Alaskan natural gas resources that may eventually be developed.

2. From the coastal perspective, the Arctic Gas system might eliminate the need for one of the three LNG terminal facilities presently proposed. That would depend, however, on numerous contingencies such as: whether development of natural gas takes place elsewhere in Alaska in volumes sufficient to require a new site; whether LNG from other international sources is available in quantities and at prices such that West Coast gas companies are willing to undertake major supply projects based on such sources; whether the overall U. S. natural gas situation justifies a West-East transcontinental gas pipeline system supplied by LNG landing in California.

3. Discussion of the LNG transportation alternative apparently discusses only Point Conception as a possible receiving terminal site. The discussion does not adequately support the conclusion that the volumes being contemplated from the Alaskan North Slope could not be received at the Los Angeles and/or Oxnard terminals presently being proposed, if such facilities were built. There does not appear to be discussion of alternatives to the Point Conception site even excluding the other two named sites.

The Coastal Commission has several concerns about the Point Conception site, among them: concern that a major new industrial facility will open this undeveloped coastal area to other energy-related development, and will lead in particular to pressures for nuclear power plant and offshore petroleum-related development; concern over the impact of a negative thermal discharge on the marine environment; concern over the navigational safety aspects of maneuvering LNG carriers among the offshore facilities and added barge and tanker traffic associated with further Santa Barbara Channel oil development.

Department of Health Concerns

The report points out that NO_x concentrations may be created at compressor stations which may be dangerous to health under certain atmospheric conditions. The report should identify the number of people this might affect, mitigating actions if any that might be taken, and maximum duration of such an effect. Similar detail should be given to health effects of air pollution which may be associated with the concentration of construction equipment.

The noise levels associated with the venting of high pressure gas from compression stations and lines are identified. The noise would be audible for 15 miles and at the possible complaint level at two miles. The possibilities for reducing the noise impact, either by construction, mechanical means or by the most appropriate timing of the venting during the day and year should be covered. The long-term noise from compression stations may result in areas which are undesirable for residential living, camping, esthetic enjoyment and other land uses. The extent of this loss should be identified.

Specific information on sound production from compressor station should be provided through measurements at existing stations rather than by estimates. Methods to minimize long-term noise should be considered.

The accident or injury potential associated with heavy equipment movement along rural roads and possibly through communities is not addressed.

Downstream use of waters below river crossings for domestic water supply should be identified and the effect that the construction of river crossings would have on these supplies should be included.

A description of the water supply and waste disposal facilities for the construction workmen is not provided.

The possible effects of discharge of hydrostatic test water on sources of domestic water are not considered. The contaminants which may be in the test water are not identified.

Movement and storage of quantities of explosives will have significant potential for health impacts which should be covered along with the precautions taken to prevent accidents, theft or sabotage.

The possible effects of blasting on the human population and the duration and frequency of blasting is not present.

The additional mitigation measures which are identified for protection of water resources are appropriate and are needed for protection of these resources. In addition, the crossing of saline waters near Antioch should consider possible exposure of underlying aquifers to salt water instrusion during dredging and disposal needs of the dredged material.

The possible unavoidable community impacts are listed but the report states that no estimate of the degree or location of the impacts can be made because of too many variables. An evaluation could be made as to those communities which have little additional capacity to provide services or accommodations and the most critical impacts then could be estimated.

The potentially disasterous effects of a gas leak are described; however, the possibilities of mitigating measures such as closer spacing of valves, relocation of dwellings, or land use control over future development, are not.

Monitoring of environmental media to determine effects of the project are mentioned; however, more specific detail is needed to determine the adequacy of these efforts.

The availability of facilities for the disposal of toxic or hazardous material should be identified along with facilities for the disposal of general solid wastes which will result from the construction.

The environmental impact coverage for the Kingsgate to Los Angeles pipeline includes mention of several items which are mentioned above; however, the majority of comments applies to the report coverage for both lines.

Conclusion

Until more information is available on this and the major competing systems (LNG), the State will defer its final expression regarding support of any single undertaking.

Thank you for the opportunity to review and comment on the draft statement.

Sincerely,

CLAIRE T. DEDRICK
Secretary for Resources

By Claire T. Dedrick

Attachments

cc: Director of Management Systems
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
(SCH No. 75080531)

Illinois Department of Transportation
2300 South Dirksen Parkway Springfield Illinois 62764

November 21, 1975

Draft Environmental Statement
Alaska Natural Gas Transportation System

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

Thank you for the opportunity to review the DEIS. We would like to make the following comments which we believe should be addressed in the Final Environmental Statement:

1. Air Quality Impact. The proposed pipeline would be constructed within 50 miles of four urbanized areas in Illinois. Not addressed in the DEIS is the impact on air quality in those already somewhat congested areas, resulting from the slowdown of vehicular traffic caused by the large heavy, slow moving equipment in use during the construction period. It is suggested that the FEIS address this matter and give consideration to minimizing harm by scheduling movement of such vehicles during hours of reduced traffic.

2. Water Quality Impact. It would be helpful if more specific information were provided concerning measures to prevent and control erosion during and following construction of the pipeline.

3. Noise Impact.

   a. The sound levels cited on pages I-352 and I-353 are meaningless unless the distance from the sources are given.

   b. It is recommended that local zoning officials be made aware of forecast noise levels at compressor station boundaries, to help avoid the placement of sensitive receptors there. Where sensitive receptors are already in place, noise abatement should be provided.

   c. There is error in the information presented on page V-912, concerning Interstate Motor Carrier Noise Emission Standards. The Standards are established by existing law, not proposed, and were effective October 15, 1975. The limit which is established for speeds less than 35 miles per hour at 50 feet from the center line of travel lane, is 86 dBA, rather than 80 dBA which is given in the EIS.

4. General. Additional coordination with the Illinois Department of Transportation will be required prior to construction where crossing of State roadways or rights-of-way are involved.

Very truly yours,

Earl H. Bowman
Acting Chief
Bureau of Environmental Science

STATE OF IDAHO
DIVISION OF BUDGET, POLICY PLANNING AND COORDINATION
STATEHOUSE
BOISE, IDAHO 83720

November 10, 1975

U. S. Department of the Interior
Bureau of Land Management
Washington, D. C. 20240

Attention: Roman H. Koenings, Project Manager

Dear Mr. Koenings:

The Idaho State Clearinghouse has reviewed the Draft Environmental Impact Statements on the Alaska Natural Gas Transportation System, SAI #00855292. The statements was sent to the following for review and comment:

Ken Stolz, Natural and Physical Resource Planner for the
Division of Budget, Policy Planning and Coordination
Department of Fish and Game
Department of Water Resources
Department of Health and Welfare, Division of Environment
Department of Lands
University of Idaho, College of Forestry, Wildlife and Range Sciences

We are enclosing copies of the comments received from the Department of Water Resources and from Dean Ehrenreich of the University of Idaho.

While we have no specific comments to offer we appreciate the opportunity to review.

Sincerely,

Donna R. Guss

Donna R. Guss,
State Clearinghouse

lf

enclosures

cc: U of I

TEACHING/RESEARCH/SERVICE
Forest/Range/Wildlife
Fisheries/Utilization

University of Idaho
College of Forestry,
Wildlife and Range Sciences
Moscow, Idaho 83843

October 30, 1975

TO: Bureau of State Planning and Community Affairs
FROM: John H. Ehrenreich, Dean
SUBJECT: Draft Environmental Impact Statement

We have reviewed the draft environmental impact statement of the Alaska Natural Gas Transportation System. This is the largest impact statement (by either number of pages or just weight) we have ever seen -- for whatever that means. The part relating to Idaho can be most easily seen in Part I OVERVIEW, Volume 1 of 1; specifically pages I-121, 126, 130, 134, 140, 145, 155, 158, 195, 203, 206, 223-224, 227, 234, 248, 273-274, 289, 298, 310-311, 338-339, 348-349, 362, 365-369, 370-372, 374-376, 379-380, 384, 386, 389, 409, 416, 420-433, 473, 474-475, 484-485, 512, 513.

Some of the comments or statements that are of particular concern or potential concern to Idaho are:

1) On page 203 it says, "The proposed pipeline system will impact a wide array of plant and animal communities. A detailed discussion...is not within the scope of this overview." One wonders then why not with the many thousands of pages.

2) On page 227 it says, "In the Canadian Provinces and the lower 48 States, major changes in the types and levels of economic activity are not seen."

3) Pages 273-274 relate specifically the route through northern Idaho. Of concern here is the pipeline along the Moyie River, a potential Wild River. Also, the pipeline will pass within 1/8 - 1/2 mile of developments near Pend Oreille and Cocolalla Lakes and near the residential areas of Sandpoint and Bonners Ferry.

4) On page 289 it says, "The Moyie River road...has severe bridge weight limits." Shouldn't they then build a new bridge (with additional impacts) or reroute the whole pipeline?

5) On page 311 it points out that the Moyie and Kootenai Rivers are potential Wild or Scenic Rivers.

6) On page 338-339 it points out that, "...The cleared swath through the trees along the present pipeline is readily seen and is a serious detraction to the natural qualities of the region." This is pointed out as being especially a problem in northern Idaho. It further states that at present the population interference will be small except Spokane-Coeur d'Alene area and near San Francisco.

7) On pages 365-369 and on 372 they do admit that construction would "change the character of the terrain" and cause water erosion and increase stream sediment. This could be critical along the Moyie River.

8) On page 374 they do point out that permanent changes in vegetation will occur. This should have further study in Idaho.

9) On page 376 they also admit that long-term adverse (destruçtion of critical habitats) effects could occur on wildlife.

10) On page 379 they further point out that "impacts on fish would be local"... and range from "insignificant to serious". Then on page 380 they elaborate the types of impacts on fisheries and say that increased sediment loading would be most serious.

11) On page 474 they mention that the pipeline would eliminate a substantial portion of potential Wilderness areas. This is further discussed on pages 484-485 and 513.

I feel that the above comments need to be a matter of record. I further hope that the above will be useful to you in deciding Idaho's reaction to the draft impact statement.

John H. Ehrenreich
Dean

RECEIVED
SEP 4 1975
Department of [illegible]

STATE OF IDAHO
DIVISION OF BUDGET, POLICY PLANNING AND COORDINATION
BOISE, IDAHO 83720

CECIL D. ANDRUS
GOVERNOR

H. W. TURNER
ADMINISTRATOR

TO: Department of Water Resource
Statehouse Mail

DATE: September 3, 1975

FROM: State Clearinghouse
Bureau of State Planning and Community Affairs
Statehouse
Boise, Idaho 83720

RE: Alaska Natural Gas Transportation System

SAI # 00855292

The enclosed Draft Environmental Impact Statement is referred to you for review and comment in accordance with the U. S. Office of Management and Budget Circular A-95. If your agency has an interest in this document and wishes to comment on it, please check the appropriate box (es) and return this memo, with your comments, to the State Clearinghouse no later than ~~October 17, 1975~~.

☐ No Comment

Project will require State stream chanel alteration permit where they cross continuous flowing streams

☑ Contacted Applicant

☐ I Was Already Aware of This Project

☐ Comments Attached

Reviewers Signature ______ Date 9/5/75

Title ______

Project will require state stream channel alteration permits where they intend to cross continuous flowing streams

---

NORTH DAKOTA STATE PLANNING DIVISION

STATE CAPITOL—FOURTH FLOOR—BISMARCK, NORTH DAKOTA 58501
701 224-2818

October 31, 1975

STATE INTERGOVERNMENTAL CLEARINGHOUSE SUPPLEMENTARY "LETTER OF COMMENT" ON PROJECT REVIEW IN CONFORMANCE WITH OMB CIRCULAR NO. A-95

To: U.S. Department of the Interior - Bureau of Land Management
STATE APPLICATION IDENTIFIER: 7507310411

Mr. Roman H. Koenings, Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
U.S. Department of the Interior
Bureau of Land Management
Washington, D.C. 20240

Dear Mr. Koenings:

Subject: Draft Environmental Impact Statement by the U.S. Department of the Interior - Bureau of Land Management on the Alaska Natural Gas Transportation System.

This Draft EIS was received in our office on July 31, 1975 and the review letter was dated October 24, 1975.

In the process of the A-95 review, the attached comment was received from the South Central Dakota Regional Council.

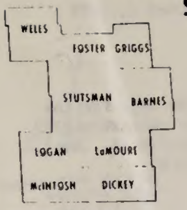
This document and attachment constitute the further comment of the State Intergovernmental Clearinghouse, made in compliance with OMB Circular No. A-95. Previous comments were forwarded with a "Letter of Comment" dated October 24, 1975.

Sincerely yours,

Bonnie E. Austin
Miss Bonnie E. Austin
Associate Planner

BEA/ds

Attachment



SOUTH CENTRAL DAKOTA REGIONAL COUNCIL

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STUTSMAN COUNTY
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Gordon Cofell
Francis Simmers
Charles Russell
WELLS COUNTY
Daris O. Bittner
Albert E. Reddig
William Ryan

COMMENTS: Alaska Natural Gas Transportation System

The regular meeting of the South Central Dakota Regional Council was held at the Jamestown Ramada Inn on October 23, 1975. The proposed natural gas pipeline was discussed at length with particular emphasis on the impact that portion of the pipeline will have that crosses portions of State Planning Region Six.

The Executive Committee does not take serious issue with any part of the environmental review as presented; however, the committee did point out that the following points should receive particular consideraton:

1. Natural gas service should be made available to users in the immediate vicinity of the pipeline. This energy supply should be available in quantities sufficient to supply current residential, commercial and industrial demands as well as for projected needs during this century. Gas supplies should also be available for the manufacture of agricultural fertilizers since this input is vital to our basic economy.

2. Soil strata should be retained to its original formation after the gas line is in place.

3. Every consideration shall be given to minimizing the environmental disturbance during the construction stage.

4. The gas line shall be buried to a depth that will not interfere with the ongoing construction and improvements to secondary roads in the respective counties.

Sincerely,

Maurice Zink

Maurice Zink
Executive Director

sg

October 16, 1975

SUBJECT: United States Department of Interior
Bureau of Land Management 75-07-3-003

TO: Rosemary White
Project Review Coordinator
Pennsylvania State Clearing House
Governor's Office of the Budget

FROM: Raymond H. Holst
Assistant Director
Governor's Energy Council

In reference to the project stated in the subject above, the following comments are submitted. Based on the information available, it would appear that there are no adverse environmental impacts which would be so severe in light of the probable economic advantages which should preclude our cooperation in advancing this project. These stated advantages lie principly in the supply of much needed natural gas for Pennsylvania as well as to other industrial areas in the Northeast as well as to the potential for the fabrication of a major portion of the necessary pipe here in Pennsylvania.

The Office of State Planning and Development and the Southwestern Regional Planning Commission have indicated that every effort should be taken to relocate the proposed line still further south as it passes south of Pittsburgh , so that it will not traverse two of Pittsburgh's regioanl recreational areas, and also to avoid an inhibiting influence upon the orderly development of Pittsburgh's southern suburbs.

Attached are comments provided to this office by the Mineral Section of the Bureau of Forestry, Department of Environmental Reources which addresses itself to more specific elements of the environmental impact study with specific recommendations as to where additional work and/or clarification would be indicated.

RHH:bp

Attachment: Eugene Frund, Memo (10/1/75)
Bureau of Forestry
Minerals Section

COMMONWEALTH OF PENNSYLVANIA
GOVERNOR'S OFFICE
OFFICE OF THE BUDGET
HARRISBURG, PA. 17120
P.O. Box 1323

October 17, 1975

Mr. Roman Koenings
Project Manager, EIS Task Force
U.S. Department of the Interior
Bureau of Land Management (302)
Washington, D.C. 20240

Dear Mr. Koenings:

Attached please find additional comments on the Draft EIS - Alaska Natural Gas Transportation System (PSCH No. 75-07-3-003). These comments were received from the Office of State Planning who reviewed the project for the Governor's Energy Office.

Please attach these comments to our letter of October 3, 1975 in which we the Department of Environmental Resources comments on the above referenced project.

If you have any questions on this mather please feel free to call me at 717-787-8046.

Sincerely,

Rosemary E. White

Rosemary E. White
Project Review Coordinator
Pennsylvania State Clearinghouse

REW/let

COMMONWEALTH OF PENNSYLVANIA

October 1, 1975

OCT

Comments on Alaska Natural
Gas Transportation System
Draft Environmental Impact Statement
75-07-3-003

Raymond Holst
Assistant Executive Director
Governor's Energy Council

Eugene Frund
Eugene Frund, Chief
Minerals Section
Bureau of Forestry

Of the 1,619 miles of proposed natural gas pipeline located in what has been called the North Border, 64 miles of line will extend through the counties of Washington, Allegheny, and Westmoreland in southwestern Pennsylvania. On an acreage basis, 776 acres of land will be affected. The bulk of this total or 21 miles (270 acres) will be through woodlands, 18 miles (230 acres) through upland forests, and 17 miles (220 acres) through grasslands. In addition to the pipeline, one compressor station site (20 acres) and three relay towers (12 acres) will be constructed in Pennsylvania.

Because of the size of the proposed gas pipeline, towers and compressor station sites, the commitment of land is unavoidable. The installation will cause temporary short-term effects on the environment. Clearing operations, trenching, backfilling and the removal of materials and debris should be accomplished in a manner consistent with the landowner's wishes, both State and Federal regulations and due consideration for sound esthetic values. After the pipeline has been installed, the land should be restored to its original contour, preventative devices installed to eliminate erosion and the line reseeded along its entire length.

As outlined in the Statement, the temporary right of way will have a width of 100 feet which will be reduced to a permanent right of way after construction of 54 feet. This permanent right of way will have some long-term effects on the environment, mainly in the heavily wooded areas where loss of the forest will stand out as a reminder of what is present. Also, the relay towers and compressor station will remind many that a pipeline is present and the aesthetics would be improved had it not been constructed.

Because of the length of the proposed pipeline right of way and the number of volumes describing the total project, it would not be practical to read and comment on the complete Environmental Impact Statement (EIS).

The construction of the pipeline is of the utmost importance from both a National and State level. In case of a national emergency, the pipeline would assure the steady flow of a vitally needed energy source into both the east and west coasts and part of the heartland of America. Also, the beneficial environmental effects incident to the consumption of the nonpolluting natural gas outweighs the short-term adverse environmental effects incident to pipeline and compressor station site construction. The proposed pipeline will make available large quantities of natural gas to home owners and industry and, thus, help to keep alive the industrial base which has made this nation what it is.

Areas in which the EIS could possibly be improved or is in need of additional work or clarification are as follows:

1. State Report

In the final draft, in addition to the discussion and many explanations of the pipeline as a whole, a section should be incorporated to cover the environmental impact of each state along with a map, preferably on a 7.5 minute topographic base, showing the detailed location of the line in each state.

2. Width

In Pennsylvania, 17.4 miles of the proposed pipeline will be along existing pipeline or power rights of way. In this area, where the two lines will be parallel, as much of the existing line should be used to keep the new land disturbance to a minimum.

In the EIS, the proposed width of the line is 100 feet. This width appears to be too wide as other pipelines in Pennsylvania have been installed using widths of only 90 feet or less where the pipe size being installed is of a larger diameter; 36 inches, as opposed to 26 inches in the proposed EIS.

3. Screen Plantings and Alignments

The most objectional reasons generally cited against a pipeline right of way are the long narrow cuts into and over forested mountain regions. In order to minimize this visible effect, the EIS should consider the careful alignment of the pipeline and the use of screen plantings along the many roadways and river crossings.

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4. Recreation

The use of the permanent right of way can be made for the planting of game foods and hunting. Also, other recreational use of the pipeline by foot trails should be considered. Has the EIS considered a trail on the right of way from Pennsylvania to Alaska?

5. Landslides

The location of the pipeline in the southwestern part of Pennsylvania is in a region which is susceptible to landslides. The EIS should research this phenomena of mass wasting in detail. The pipeline will be located in an area where the four most landslide prone rock formations in Pennsylvania are present. The impacts of urbanization in addition to the construction activities of the pipeline may create serious geologic hazards.

6. Mining

In Pennsylvania, the proposed pipeline will traverse one mile (14 acres) of lands which have been strip mined. Since the line will be located in that part of Pennsylvania where deep mining is most prevalent, additional concern and studies should be made to be sure that the proposed line is constructed far enough above any shallow deep mine to be completely safe. In areas of deep mining which are questionable, support for the pipeline and construction activities by placing pillars or supports within the mine should be considered.

Phone: (907) 424-3237
or 424-3238

CITY OF CORDOVA
Box [redacted] 1210
CORDOVA, ALASKA 99574
"The Friendly City"

Reply to:

July 29, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington D.C. 20402

Gentlemen:

The citizens and the local government officials (i.e. City Council, Mayor, City Manager, etc.) wish to take this opportunity to advise your committee of our feelings on the matter of the natural gas pipeline.

It is the studied opinion of the majority of our citizens that the natural gas pipeline is vitally needed, not only by people in the lower 48 states, but by people living in Alaska.

It is almost unanimous that the people of this area support an All-Alaska gas pipeline. It is felt that this would be both logically and economically sound reasoning at this point in time, both in growth potential and energy conservation at its best. While we are sure there are arguments for both sides that have merit, it is felt that it would be a mistake to even consider taking the gas pipeline through a foreign country under present conditions in the world political picture.

The citizens of the Cordova area hereby request the federal government to deny any and all permits to any firm or company requesting permission to take energy (gas) through any foreign country. It would make much better economic sense to contain this energy (gas) source entirely within our own borders.

We trust that this information will provide you with the feeling of this area of Alaska regarding the routing for the natural gas pipleine. We will be anxiously waiting for your decision on this matter which is so vital to our entire country, and trust that your feelings will coincide with our own for the benefit of our area and Alaska and the country in general.

Sincerely,

Mark Kazazean

Mark E. Kazazean
City Manager

OHIO RIVER BASIN COMMISSION
Suite 208-20
Cincinnati, Ohio 45202
36 East Fourth Street
513/684-3831 (FTS)

September 19, 1975

Mr. Roman H. Koenings,
Project Manager
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Koenings:

Thank you for your letter of June 1975, inviting comments of the Ohio River Basin Commission on the Draft Environment Impact Statement (EIS) for the Alaska Natural Gas Transportation System. In my opinion, the EIS has been properly coordinated with the Commission members.

The Commission's Comprehensive Coordinated Joint Plan (CCJP) contains many existing, underway, and potential projects which may be in conflict with the proposed pipeline. As an exact pipeline alignment is not yet available, I am providing you with a complete set of baseline maps for the involved subregions. An ORBC staff listing of projects near the proposed alignment is also enclosed. Listings of projects for mine drainage abatement and municipal water supply and waste treatment have not been included.

Should you have any questions, or wish to discuss a specific project, please contact George G. White (Phone: 513-684-3831 (FTS).

Sincerely,

Fred E. Morr

Fred E. Morr
Chairman

cc:

CEQ
Federal Members
Indiana
Ohio
Pennsylvania

BROOKE · HANCOCK · JEFFERSON
METROPOLITAN PLANNING COMMISSON
REGIONAL COUNCIL
ROBERT W. WIRGAU A.I.P., EXECUTIVE DIRECTOR
REPLY TO: 814 ADAMS ST.
STEUBENVILLE, OHIO 43952
614-287-3685

ION XI
OFFICE: 3550 MAIN ST.
WEIRTON, W.VA.
304-748-1175

E-1

September 4, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D. C. 20240

Attn: Mr. Roman H. Koenings, Project Manager

Dear Mr. Koenings:

We have reviewed applicable sections of your Draft Environmental Impact Statement, Parts I, V, VI, and VII. The general route information seems to hold no unusually large potential for environmental damage in our region. We would need to see a right-of-way map at a minimum scale of 1:24000 (U.S.G.S 7-minute quadrangles) to determine in more detail the impact of the proposed transmission line on future land use potentials in our region. For example, we have proposed a site near the line for an experimental coal gassification plant. It lies adjacent to Rush Run on the Ohio River in Jefferson County, Ohio. Also, we propose an impoundment on Buffalo Creek above McKinleyville in Brooke County, West Virginia. We would like to be able to relate these sites to the pipeline right-of-way. When such a map becomes available, we would appreciate your lending us a copy.

We recommend that you proceed with this project, keeping us informed of the project schedule as you move ahead. Thank you for the opportunity to review the draft E.I.S.

Sincerely,

Robert W. Wirgau, AIP
Executive Director

John R. Beck

John R. Beck
Principal Planner

RWW:JRB:as

BROOKE · HANCOCK · JEFFERSON
METROPOLITAN PLANNING COMMISSON
REGIONAL COUNCIL
ROBERT W. WIRGAU A.I.P., EXECUTIVE DIRECTOR
REPLY TO: 814 ADAMS ST.
STEUBENVILLE, OHIO 43952
614-282-3685

REGION XI
OFFICE: 3550 MAIN ST.
WEIRTON, W.VA.
304-748-1175

September 25, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Attn: Mr. Roman H. Koenings, Project Manager

Re: Our letter of September 4, 1975

Dear Mr. Koenings:

The West Virginia Department of Natural Resources has provided us a map of your proposed pipeline right-of-way at a scale of 1:96000, which will be adequate for determining the pipeline's location effects in West Virginia and along the Ohio River in Jefferson County, Ohio.

Judging from the map, this pipeline would be a potential asset to the coal gassification plant site mentioned in our letter. The pipeline will avoid the potential construction site, but will be near enough to provide an alternate transmission route for the manufactured gas.

Regarding the proposed impoundment on Buffalo Creek, Brooke County, West Virginia; the pipeline will cross the proposed impoundment site. Because the proposed impoundment is still only a concept plan with no implementation date set, the planned construction of the pipeline need not be modified. However, if the impoundment is created, it will be necessary to go back and weight the pipeline against flotation between the elevation of the flood plain and the 800 foot contour. This is the proposed water surface elevation of the new impoundment.

EIS Task Force
Attn: Mr. Roman H. Koenings

September 25, 1975 Page 2

This will complete our review of the draft E.I.S. Should we receive any subsequent comments from local officials, we will forward them to you. Please proceed with this project, keeping us informed of your schedule as you move ahead.

Sincerely,

Robert W. Wirgau, AIP
Executive Director

John R. Beck

John R. Beck
Principal Planner

RWW:JRB:as

cc. W.V.D.N.R.; Dennis Boyles

CLARK COUNTY REGIONAL PLANNING COUNCIL
118 South Fourth Street • Las Vegas, Nevada 89101 • (702) 386-4011
COUNCIL MEMBERS: County of Clark • Boulder City • Henderson
• Las Vegas • North Las Vegas • Clark County School District
• Las Vegas Valley Water District

September 8, 1975

Mr. E. I. Rowland
State Director, Nevada
United States Department of the Interior
Bureau of Land Management
Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

Subject: PROPOSED NATURAL GAS PIPELINE/NEVADA

Dear Mr. Rowland:

We appreciated receiving your letter of August 29, 1975 concerning the proposed north/south pipeline, that may cross Nevada, in the general area of McDermitt to Oasis.

Normally, this is the type of information we always appreciate receiving and would prepare comments to be presented at a public hearing - if this proposal was in our official jurisdiction which is Clark County. Since the proposed natural gas pipeline may be in Esmeralda County (pipeline location more than 100 miles to the west of us) we do not feel we should participate in the review of this proposal.

Thank you very much for the opportunity. Please keep us informed of your many fine activities.

Sincerely,

EDWARD F. DAVIS, AIP
Executive Director

EFD/ii
cc: Mr. John Boyles, Manager
Bureau of Land Management
Las Vegas, Nevada 89102

cc: Mr. Bruce Arkell, State Planning Coordinator
Nevada State Clearinghouse
Carson City, Nevada 89701

cc: RPC Technical Committee Members (Information)

STATE UNIVERSITY COLLEGE
ONEONTA, NEW YORK 13820

Biology Department

October 9, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Sirs:

I have read thoroughly the summary and Volume 1 of the EIS and perused the remaining volumes. I have been to Alaska twice during the summers of 1969 and 1971. In 1971 I flew the proposed pipeline route from Fairbanks to Prudhoe Bay and have driven the route from Valdez to Fairbanks. Thus I am somewhat familiar with the Alaskan scene and the area involved in several of the proposals for the gas line.

I strongly oppose any routing of the pipeline through the Arctic Natural Wildlife Range. It will have only a disruptive effect which I see no reason for incurring.

The route I favor is that which follows the route of the present oil pipeline from Prudhoe Bay to Big Delta, then along the Alaska Highway to Canada and then continuing with the Main North-South pipeline through Canada.

My rationale for this proposal is simply that it is the least disruptive to land not already disturbed. Since the route I feel is best already has been disturbed, I favor installation in the same corridor regardless of the cost which, although greater, is worth the price for not destroying or invading other wild areas of Alaska.

Please enter these comments in your hearing record. I would appreciate being placed on your mailing list to receive further information such as hearing summaries and final reports.

Yours truly,

John G. New, Chairman
Biology Department

JGN:ww

cc: Senator Javits
Senator Buckley
Representative Hanley

Nature Study Society
of
Rockford, Illinois
61103

813 N. Main St.
Oct. 6,1975

Alaska Natural Gas Transportation System
E.I.S. Task Force
Bureau 0f Land Management
Department of Interior
Washington, D.C. 20240

Dear Sir:
I am enclosing a petition signed by members of the Rockford Nature Study Society regarding the proposed route of the Arctic Gas Transmission System pipeline. We sincerely request that you give this matter more consideration and that you select the least destructive route.

Sincerely,
Mrs Roy W. Engberg
sec'y

E.I.S Task Force
Alaska Natural Gas Transpottation System
Room 1538 Bureau of Land Managment
Department of Interior
Washington D.C. 20240

The undersigned are concerned about the proposed route for the Arctic Gas Transmission System . We are opposed to any pipeline crossing the National Wildlife Refuge in Alaska. We are also opposed to any route which would intrude upon Starved Rock Nature Preserve or other public lands in Illinois. We suggest that a route using the existing Trans-Alaskan Pipeline ~~[illegible]~~-corridore to Big Delta is the least environmentally destructive.

The undersigned are members of Rockford Nature Study Society.

Roger e Hass ---- 6064 F. Fzgerald Rd. Rockford
Barbara J. Fell ---- 819 N Main St Rockford
Clive Ballard ---- 327 N. Church Rockford
Connie F... ---- 1610 N. Court St
Gladys A. Elliott ---- 1613 Vernon St. Rockford
Jim and Ann Lindstrom ---- Poplar Grove Ill.
Addie Kohler ---- 726 Fulton Ave. Rockford Ill
Mary F. Hass ---- 6064 Fitzgerald Rd
George B. Fell ---- 819 N Main St.
[illegible] Olson ---- 323 N Gardiner 61107
P.S. Conklin ---- 1306 Halsted Rd 61103
Gertrude Olson ---- 323 No Gardiner Ave
Ruth Morris 524 N Central Ave.
Rosa H Hartman 2011 Jefferson Blvd.

---

by Ansel Adams in *This is the American Earth*

SIERRA CLUB Mills Tower, San Francisco 94104

Eastern Sierra-Nevada Task Force of the
Southern California Regional Conservation
Committee

October 1, 1975

TO: Roman Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
US Department of Interior
Washington, D.C., 20240

RE: Alaska Natural Gas Transportation System through Owens Valley, California

FOR RECORD OF THE HEARING

The Eastern Sierra-Nevada Task Force has been in existence since 1965, with approximately 70 members in Southern California, 30 of which live in the Owens Valley. This task force was founded for the purpose of preserving the Owens Valley and is dedicated to the wise use of its natural resources.

With regard to the Task Force stand on the proposed Alaska pipeline route through the Owens Valley, we are not supportive of any pipeline proposal from Alaska through the valley.

However, should the pipeline alternative be considered as top priority for the transfer of natural gas to Southern California, then the Eastern Sierra Nevada Task Force expresses its support of the Montgomery Pass route and strongly urges the use of existing routes and utility corridors and transportation routes in the laying of the pipeline.

As the Owens Valley is one of the last remaining open spaces of any significance in Southern California, we of the Eastern Sierra-Nevada Task Force strongly support any efforts in the preservation of the valley. We feel that this is a national issue and that Owens Valley should have a place in America's natural heritage.

Sincerely,
Jolene Weese
Chairman

jl/JW
cc: Ed Wehbring

Wildlife and Endangered Species Subcommittee

angeles chapter
sierra club

2005 Elm Ave.
Manhattan Beach, CA 90266
October 16, 1975

Alaska Natural Cas Transportation
System Task Force
Room 1538, Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Sirs:

It is our fervent hope that in your consideration of the various alternative gas pipeline routes presently proposed, you will reject the Alaskan Arctic Gas Pipeline Company's proposal which would run through the Arctic National Wildlife Refuge. Clearly, this use of the lands involved runs counter to the purposes for which they were set aside, and the precedent set by such a move is not one to be taken lightly. We recognize the importance of this gas field and the spirit of energy independence, but there is no reason to ignore wildlife values. Rather, the route which follows the existing corridor to Big Delta and along the existing oil pipeline would appear to inflict significantly less new environmental damage. It would also have the benefit of profiting from the knowledge of this difficult area gained in the laying of the first pipeline.

We appreciate this opportunity to offer comments and look forward to your decisions.

Sincerely,
David A. Ladensohn
David A. Ladensohn
Chairman

GEOTHERMAL ENERGY INSTITUTE
1000 NORTH POINT . RM. 1704
SAN FRANCISCO, CA 94109

DONALD F. X. FINN
MANAGING DIRECTOR

August 12, 1975

EIS Task Force
Alaska Natural Gas Transportation System ("ANGTS")
Bureau of Land Management (302)
U. S. Department of the Interior
Washington,D.C. 20240

RE: Draft EIS dated June 1975 in respect of proposed ANGTS

Gentlemen:

Pursuant to your request we furnish our comments on your Draft EIS as follows:

1. Page VI-202

Geothermal systems also include magma chambers and salt domes as separate types of geothermal reservoirs.

Colp, J. L., 1974, Magma-Tap; The Ultimate Geothermal Energy Program: Sandia Laboratories, Albuquerque, N.M.

University of Hawaii, 1974, Proceedings of A Conference On The Utilization of Volcano Energy.

Jacoby, C. H. and Paul, D. K., 1974, Salt domes as a source of geothermal energy: Journal of Mining Engineering

2. Page VI-202

The opinion that wet steam systems are 20 times more common than dry steam systems is speculative. 10 times might be more likely.

3. Page VI-204

Geopressured zones have been identified on-shore the Texas Gulf Coast and are believed to exist off-shore Mississippi. Dr. Paul H. Jones of LSU has current information. See also, Wilson, J. S. et al., 1974, An analysis of the potential uss of geothermal energy for power generation along the Texas Gulf Coast: Dow Chemical U.S.A., Texas Division, Freeport, Texas; Wilson, J. S., 1975, An anelysis of the potential use of geothermal energy for power generation along the northern Gulf of Mexico: United Nations.

4. Page VI-204

The Marysville, Montana system was predicted by geophysicists to be, and drilling has confirmed it as, a warm water system. The source of heat is unknown.

5. Page VI-202

The opinion that dry steam systems are "the most commercially attractive" is contenious.

Many companies believe that wet steam systems utilizing binary-cycle or total flow conversion systems are the most commercially ettractive.

The 'attraction' you speak of seems limited to the steam suppliers point of view. Geothermal resources like gold is where you find it. From a public utility's or energy end-users point of view the most commercially attractive resource is the one most available to it.

6. Page VI-203

Your map of hydrothermal reservoirs does not include known hot spring areas in Texas, e.g. Martin Hot Springs, Martin, Texas.

7. Page VI-204

Query - your statement that "up to 25 percent of the water (in e hot water system) becomes steam". This can be higher under various circumstances.

8. Page VI-205

No American geothermal power plants discharge effluent into streams and it is unlikely they will ever be.

Hot water systems are elso employed at Kawuere, New Zealand;

Otake, Japan; construction is underway in El Salvador and the Phillipines; developments are planned in the USSR, Nicaraqua, Iceland, Valles Caldera-New Mexico, Roosevelt Hot Springs-Utah, Kelley Hot Springs-California, Niland and Heber-Californie, Raft River-Idaho.

Your description of vapor-dominated systems is questionable. We suggest you review it with the operators at The Geysers: Union Oil Company; Pacific Energy Corporetion; Burmah Oil & Gas Company; Shell Oil Company; Geothermal Kinetics Corporation.

Your suggestion thet production from geothermal reservoirs will possibly deplete ground water ecquifers is speculative and controversial. A more scientific hydrological analysis should be presented.

9. Page VI-206

We do not share your view that may "economic problems must be solved" before geopressured systems can be used commercially. If you believe they exist we suggest you spell them out for reviewers. Some companies are moving ahead to lease geopressured areas and drill them.

10. Page VI-206

We query your view that "The concept of energy extraction from hot dry rock has not yet been tested". The system has been patented and development of the critical components is well underway. You present a very negative view of the on-going work in the field.

11. Page VI-206

Your comparison of geothermal plants with other types is not particularly useful.

Fossil and nuclear plants have to creats steam, geothermal plants use what is naturally available and need no fuel extraction, storage, fabrication, transportation, or waste management systems.

A LWR only utilizes 2% of the energy available in uranium; and generates about 3 kwh/thermal for every useful kwh/electrical; and require vest amounts of water for cooling; and are much more expensive than geothermal power plants.

At The Geysers well-head pressures are about 450 psi.

12. Page VI-207

There are about 140 wells at The Geysers; there are 400 at Klamath Falls, Oregon. Query - which is "the most extensively developed area". Differeniate between power production and use of geothermal energy for non-electrical purposes.

13. Page VI-207

You are very dismal about industry's abilities to cope with geologic and technological problems.

If man can drill wells on the North Slope and build a gigantic pipe line through Alaska, and build cryogenic LPG tankers and finally deliver hydrocarbons to the lower 48, I think it fair to say we can take the indigenous resources of California, Oregon, Idaho etc. and commercially utilize them.

14. Page VI-207

Query your "75 psi" for hot water fields.

15. Page VI-209

Efficiencies of conversion systems do not seem to be very useful bits of information in this EIS. Is the overall system efficient - in terms of energy used to create useful energy - that is the real question to eddress.

16. Page VI-209

Start-up procedures at The Geysers are not overly long, nor are they particularly complicated.

It is better to utilize a constant flow of steam out of a well and not shut it down - which could create problems with the steam source unless care is taken.

17. Page Vi-209

Turbines at The Geysers are now 140 MW. Wells produce up to 395,000 lbs/hr. The two million pounds/hr for a 110 MW plant includes reserves required by the purchasing utility as a safety factor.

H_2S is controlled by processes which reduce it to elemental sulphur or entrain it inthe reinjection line.

18. Page VI-210

Geofluids are NOT reinjected before power generation where total-flow or binary-cycle plants are utilized to eccomodate the total fluid flow.

19. Page VI-210-211

White, Muffler, Rex all differ principally because they measure different resources.

We suggest you read and cite the independent calculations of Dr. B.F. Grossling of the U.S.G.S. - An appraisal of the prospects of geothermal energy in the United States (1973); Conceivable actions to increase geothermal energy reserves (1972); summary in USGS Prof. Paper 800-A, p. A10-A11.

I dont think the University of Oklahoma has the expertise or experience to make reliable estimates about how much geothermal energy we will be using by 1985. I doubt if you can even state how much is being used for non-electrical purposes (space heating, defrosting, greenhouses, agriculture, mariculture) - I estimate it's about 400-600 MW worth from Lebanon Hot Springs, New York to Klamath Falls, Oregon.

You seem to have abias about good projections for geothermal.

20. Page VI-210

There are four major steam suppliers at The Geysers (Union, PEC, Burmah, Shell) with several not too far behind (Republic Geothermal, California Geothermal, McCulloch Oil) each of whom can supply 110 MW annually.

The 1000-2000 MW "utlimate capacity" estimate is just for Union's acerage and does not include other areas at The Geysers. I'll take Dr, Giancarlo Facca's estimate of 5000-8000 MW.

21. Page VI_215

Fossil fuel plants are over $400/kw; nulcear power plants are over $700/kw and are ranging up to $1000/kw (and the Government picks up the tab for waste mangement).

Wells at The Geysers have gone to 10,000 feet.

Fixed costs at The Geysers include environmental compliance, an expensive and time-consuming procedure, and one that is primarily responsible for the delays in construction.

There is more experience with water-dominated reservoirs than with dry-steam reservoirs.

We strongly disagree with your view that "Technological advances will be required for geothermal energy to have more than a local impact." Kwh's can be transported around grid systems easily enough; and while technological advances are coming rather quickly, we have technology to commercially harness vast amounts of geothermal energy in the 15 western states and along the Gulf Coast.

Sincerely yours,

Donald F. X. Finn

GEOTHERMAL ENERGY INSTITUTE
1000 NORTH POINT - RM. 1704
SAN FRANCISCO, CA 94109
415-474-8938

DONALD F. X. FINN
MANAGING DIRECTOR

September 15, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington,D. C. 20240

Gentlemen:

May we comment on the DEIS for ANGTS.

The Overview states(Vol. 1, pages 548-549) that the greatest potential for geothermal energy in the United States exists in the Rocky Mountain and Pacific Regions and that "The utimate capacity of the Geyer (sic) Field is estimated to be in the 1,000 to 2,000 MW range".

The U. S. Geological Survey's Circular 726 (August 1975) states that "The geopressured fluids of the Gulf Coast have a huge geothermal potential" - up to 35,000 megawatt centuries (115,000 MW for 30 years), and that unassessed geopressured basins may have a potential of at least 100,000 megawatt centuries (or 330,000 MW for 30 years).

The USGS estimates that recoverable 'geothermal' electricity is equivalent to 140 Hoover Dams or 140 average modern nuclear power plants is apparently based on its own studies, as it notes that "in general only scanty data are available now from industry". (p. 53).

Bureau of Land Management regulations inhibit the release of industry data, since they require that applications for Federal geothermal leases be automatically rejected in areas where discoveries are made, and that such areas be declared KGRA's and placed up for competitive bid. Almost two years have passed since applicants first filed for Federal geothermal leases with the BLM and only a handful of leases have issued. They are, therefore, quite reluctant to release exploration data. The USGS notes that its estimates may be understated by 1 to 3 orders of magnitude (p.53).

The USGS also estimates that "The Geysers" geothermal field in northern California (which it defines as a belt 2 to 5 km wide, 15 km long, and about 70 km^2 in total area) has a potential of 1,070 megawatt centuries (or 3,570 for 30 years).

This estimate assumes the steam reservoir is only 3 km. We believe it may extend to 6km. The estimate also assumes 40 acre spacing. The practice is 20 acre spacing. The dimensions of the Field are much larger than assumed by the USGS. Burmah and Shell have extended the field to the east and southeast. Pacific Energy has extended the field to the west and southwest. Urban et al. (1975) report on evidence further extending the field. Union Oil Company and Republic Geothermal Corporation (Dr. R. W. Rex) are preparing to prove up extenssions of the Field to the north and northeast. We estimate that the Field will support 5,000 - 10,000 MW for at least 50 years, and probably much longer.

Sincerely yours,

Donald F. X. Finn

GEOTHERMAL RESEARCH CHAIRMAN:
James R. Centorino
Boston College, Weston Observatory, Weston, Massachusetts 02193
Graduate School of Arts and Sciences
Telephone (617) 899-0950

November 10, 1975

EIS TASK FORCE
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen,

I have reviewed the Draft Environmental Impact Statement issued by you for the Alaska Natural Gas Transportation System project.

The statement appears to be adequate save for the following comments and recommendations:

1. Under the heading of CLIMATE you have stated that there will be a number of compressor station turbines with exhaust emissions @ 7,200 gal/hr of 600°F water vapor. In order to remain consistent with energy conservation, this waste heat should be fed into the regional heating systems.

2. Under the heading of CLIMATE you have stated that the subsurface pipelines to San Francisco and Los Angeles will carry gas at temperatures of 100°F. In order to remain consistent with energy conservation, this waste heat should be utilized by encouraged funding of greenhouses along the surface of buried lines. This heat, as an aid to agriculture in cold climates, may also be an added incentive to farmers along the traverses of the eastern branch of the line.

3. In the interest of aiding the decaying economic structure of the nation, opportunities for employment, especially in the New England region, should be publicized sufficiently. New England has suffered the most in terms of costs of heating and transportation. Any added incentive of lower regional heating costs in this area, coupled with employment opportunity, would increase enthusiasm for the entire project. Please advise me on this matter of employment for the benefit of associates and students.

Thank you for your cooperation.

Sincerely,

James R. Centorino

James R. Centorino, GEOTHERM. RES.

Live Wilderness Expeditions

Address: ~~Box 1004, Corrales, N.M. 87048~~

P. O. BOX 33
GLENWOOD, N.M. 88039
(505) 539-2645

October 24, 1975

Alaska Natural Gas Transportation System
Bureau of Land Management
Department of the Interior
Washington, DC 20240

Dear sirs

I have reviewed the Executive Highlights brochure on the Alaska Natural Gas Transportation System and would like to offer the following comments for the record.

I do not oppose the transportation of the Alaskan natural gas to the Lower 48 states but I am adamantly opposed to any crossing or disturbance of the Arctic National Wildlife Range or proposed additions to it.

The Arctic National Wildlife Range is probably the finest wilderness and wildlife area remaining in the United States - possibly the world. It must be protected. I am against any pipeline which would cross it.

In general I support the tentative route of El Paso Natural Gas Company - but with refinements. The gas pipeline should follow in general the Alaska oil pipeline.

Sincerely

Dave Foreman

Illinois Nature Preserves Commission

818 NORTH MAIN STREET
ROCKFORD, ILLINOIS 61103
815/964-6666

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819 North Main Street
Rockford, Illinois 61103
October 22, 1975

Project Leader, EIS Task Force
Alaska Natural Gas Transportation System
Room 1538, Bureau of Land Management
Department of Interior (302)
Washington, D.C. 20240

Dear Sir:

The final draft environmental impact statement for the proposed Alaskao Natural Gas Pipeline shows two crossings of the Illinois River, in LaSalle County, Illinois. The route preferred in the EIS intrudes on Starved Rock Nature Preserve and Pecumsaugan Creek. Our objections to this route have been expressed in letters dated January 14 and January 29, 1975, which are part of the public record.

Dedication of Starved Rock Nature Preserve provides statutory protection of the area from intrusions. A nature preserve cannot be taken for another public use without a public hearing and a finding of imperative public necessity by the Department of Conservation, the Nature Preserves Commission and the Governor.

The Commission has expressed its opposition to the passage of the proposed pipeline through or in the proximity of Starved Rock Nature Preserve and Pecumsaugan Creek (Resolution 369). We urge that the alternative crossing of the Illinois River be used.

Sincerely,

George B. Fell

George B. Fell
Executive Secretary

cc: Anthony T. Dean

New York Archaeological Council

archaeological resource management service

arms

October 8, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

I have recently had the opportunity to briefly review the Draft Environmental Impact Statement on the Alaska Natural Gas Transportation System (Issued June 1975). I am certainly impressed with the organization and, in general, the comprehensiveness of the document. I am concerned, however, with two aspects of the EIS -- its treatment of cultural resources, and its treatment of certain social impacts. One could pick a large number of nits with the EIS, which is no doubt expectable given the size and complexity of the work; rather than do so, I will address my comments primarily to statements in the Overview volume, drawing on other volumes as necessary but emphasizing general issues rather than particular errors.

Cultural Resources: Executive Order 11593 directs that "the Federal Government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment.." and that federal agencies shall "institute procedures to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures and objects of historical, architectural, and archaeological significance". With reference to the present case, I take this to mean that the EIS should culminate in recommendations for direction that can be provided to the applicants, to insure that they effectively and efficiently protect and manage the cultural resources that the project may threaten. In this respect, the EIS is not successful; it provides "guidance" that is at best unimaginative, on the whole confusing, and at worst an out-and-out threat to the integrity of the cultural resources lying in the path of the project.

Ideally, archaeological surveys and other systematic means of identifying cultural resources should be undertaken during preparation of a draft EIS (cf. 36 CFR VIII 800.2). Clearly, this ideal is not attainable in this case due to the complexity and private nature of the project. It is surely then incumbant upon you to find an alternative to DEIS-level survey and preservation planning that will maximize the protection given to cultural resources. I suggest that it is not an acceptable alternative to

simply instruct the applicants to conduct cultural resource surveys and comply with the Procedures of the Advisory Council on Historic Preservation at a later date, but this, by and large, is what the EIS does.

Much of the data contained in the EIS is simply not useful for cultural resource planning. Although there are a number of statements indicating the need for archaeological surveys because of the possibility of unknown or unrecorded sites, the great bulk of attention in the archaeological (and still more in the "historical" sections is given to known resources (cf. Table 2.OV.12-1, pages I-327--330, and equivalent statements and presentations throughout). Typical of the potentially confusing statements scattered throughout all the volumes are the following from page I-396:

> "The pipeline route to San Francisco would cross 8 historic trails, while 7 historic and 21 archaeological sites would suffer direct damage from the construction..."

This sort of unequivocal quantification creates the impression that the DOI knows the absolute number of historic and prehistoric sites that are subject to impact, but on the other hand:

> "Potential impacts on historic and archaeological sites are judged to be high on 364 miles and medium on 754 miles of the route to Los Angeles..."

This suggests that on the Los Angeles route the DOI does not know the absolute number of sites possibly threatened, but is in a position to make a predictive statement. In fact, however, the situations with reference to the San Francisco and Los Angeles routes are essentially the same: for various reasons not related to the present project, some surveys have been done along some portions of the route, and in other areas archaeological sites (both historic and prehistoric) have been unsystematically recorded. No one knows how many sites may actually be subject to adverse effect, and no one is in a position to make a reliable predictive statement.

On the basis of the data now available, there is no reasonable alternative to requiring that the applicants conduct full archaeological surveys for both historic and prehistoric properties, and develop means of avoiding or mitigating effects, prior to construction. In a general way, this is what the EIS proposes. Little or no guidance is given, however, about how the surveys and preservation planning activities should be done to avoid or minimize project delays. At several points, it is indicated that the applicants should undertake compliance with the Procedures of the Advisory Council on Historic Preservation, but there is no real mechanism proposed for their doing so without either delaying the project or being forced into emergency salvage archaeological procedures. Many of the statements are explicitly salvage-oriented, apparently

springing from an assumption that salvage is the only or best way to mitigate project impacts (cf. III-1259; V-1330-31).

Some portions of the EIS are very well and sensitively done; I would particularly like to commend the author of the section between V-838 and V-875 for giving proper references for the data presented -- an indication of scientific responsibility notably lacking in most of the Statement's archaeological sections -- though this section like the others lays heavy emphasis on known sites at the expense of developing ideas about how to identify and protect those that are not known. Much of the presentation of archaeological data on the Northern Border portion of the project is often well done, though I object to the guess-predictions about where areas of archaeological sensitivity are likely to be; the available data are really inadequate to make such predictions in a responsible manner.

The overall effect of the presentation of cultural resources in the EIS, then, is:

(a) to confuse the reader about how much is known or can be predicted about the archaeological (historic and prehistoric) sensitivity of the project route, and

(b) to offer as guidance to the applicants only the indication that they should, or should be required to, engage archaeologists and historians to survey the route, salvage archaeological sites, and monitor construction activities, while going through the Advisory Council Procedures and expecting project delays.

I suggest that the results of this approach will be roughly as follows:

(a) Archaeological surveys will be done relatively late in the planning stages -- often just before construction along a given stretch of r/w.

(b) As a result, little flexibility in project planning will be possible, and salvage activities will be the only possible way of mitigating impacts.

(c) The fact that no central coordination of cultural resource planning is suggested (with some minor exceptions; see below), will result in little or no quality control in either survey or salvage work. The State Historic Preservation Officers cannot be counted on to provide such quality control in most cases, and state-to-state consistency is extremely unlikely. Some states can be expected to allow the applicants to provide for only very general, cursory surveys and very minor salvage programs, while others will be much stricter. This will result in confusion, conflicts among applicants, SHPOs, and archaeologists/historians, and delays and uncertainties in the archaeological planning process.

(d) The results of delays in archaeological planning will be the loss of cultural resources either to low-grade salvage excavations or to construction without salvage, and delays to construction of the project. Delays to the project will threaten the credibility of the entire cultural resource protection program in the Nation, because it will enable the applicants or some members of congress to assert that "the archaeologists and historic preservationists are keeping the Nation short on gas". Such an assertion would not be true, because the delays would result from bad planning by the applicants rather than from the actions of preservationists, but it would be compelling to some -- especially when the Department of the Interior has had a clear opportunity to develop a sensible cultural resource planning program that would protect cultural resources without endangering project schedules.

I suggest that rather than worrying about how many National Register properties or potential Register Properties are now known along the route, or about where zones of particular archaeological sensitivity might be based on extant data, the EIS simply recognize that on the whole the available data are insufficient to make any but the most crude estimates of potential impact, and that these crude estimates indicate that the impact will be high. The problem to be faced, then, is how to fully mitigate this impact without endangering project schedules. The following steps, I suggest, should be taken toward providing for such mitigation:

1. An integrated archaeological (historic and prehistoric) planning program should be undertaken for the entire route within the U.S., and this program should be integrated with a similar program in Canada if at all possible. Some "precedent" for this sort of program exists at page I-447 where it is asserted that "a competent historian...should be employed to make an evaluation of the entire route...". Unfortunately, the means whereby this individual would make the evaluation (and to do it in less than a lifetime would certainly take some innovative methods) are nowhere stipulated, and the same sort of requirement is not extended to non-historic archaeological evaluations (the statement about archaeology on the same page does not even indicate a clear requirement for surveys). A competent evaluation of the project's potential impact on historic and prehistoric properties would take far more than a single individual, but it should be centralized and coordinated -- as should mitigation activities. Such a coordinated program might be undertaken by the applicants through an acceptable archaeological institution or organization, or it could be undertaken by the Department of the Interior itself. The latter course of action would probably be more efficient and reliable than the former, provided the expertise present in the NPS Office of Archaeology and Historic Preservation were drawn on fully by the program.

2. Full and complete archaeological (historic and prehistoric) surveys should be done as soon as the approximate route of the project is reasonably firm. I see no reason to await staking of the line to conduct these surveys if adequate airphoto coverage is available to guide the archaeological surveyors. The survey should be intensive, it should be concerned with both direct and indirect project effects, it should involve both on-the-ground and documentary research, and it should be fully coordinated by the archaeological planning program recommended above.

3. As the survey data comes in, full compliance with Advisory Council Procedures should be instituted immediately, again coordinated by the archaeological planning program. At least one full-time Advisory Council staff member should be delegated the responsibility of coordination with the archaeological planning program, to insure that compliance procedures are expedited.

4. The archaeological planning program should continue its consultation with project planners and designers as the survey draws to a close and final design gets underway for the project itself. Wherever practicable, cultural resources should be protected in place; where this cannot be done, the archaeological planning program should select qualified archaeological institutions, architects, and others as necessary to salvage and record the resources that will be destroyed. The archaeological planning program would be responsible for seeing to it that any such work was done as far as possible in advance of construction, and that it was done expeditiously.

I strongly believe that if such a centralized planning program was undertaken, the project could be constructed without any delay on account of cultural resources, and with minimal damage to such resources. If the applicants are not given this kind of guidance, however, I believe equally strongly that both project delays and irreparable damage to cultural resources and the cultural resource preservation activities of the Department of the Interior will occur.

Social impacts: As an anthropologist, I must also make a brief comment on the EIS's treatment of social impacts. Although I take it that some of the applicants have made an attempt at a detailed anthropological or sociological investigation of the village of Kaktovik and other communities along the route, the EIS's approach by and large is summed up in the following:

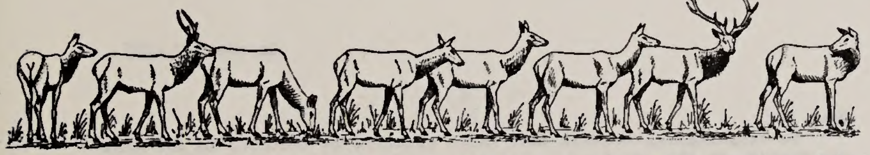
> "The Natives of northern communities have long been exposed to white man's culture and the social evolution that has already changed their traditional ways of life can only be accelerated by the development and transportation of mineral resources in the North. Many people will welcome the benefits of a new life style and different social customs but in the short term and perhaps the long term many will desire to retain their traditions, customs and language. Whether the changes are good or bad are value judgements only the people concerned can make and the options should be of their choice."
>
> (I-503-4)

I must point out that this sort of statement could have been made before the dispatch of Conquistadores to Mexico, missionaries to Polynesia, or Marines to Viet Nam. How are the people concerned going to be given their choice of options? How are they to be informed of the options? How are they to be protected from having their options chosen for them? What are the "benefits of a new life style..." and how are the people made knowledgeable of them? In what ways is is desireable -- or perceived as desireable -- to retain traditional customs, and what strategies will be made available to the people for integrating new life styles with old? Some data are presented on Eskimo attitudes, indicating a considerable amount of socioeconomic conflict (cf. II-489, -518, -519, -765-773,-871-3, etc.), and yet I see no evidence of any substantial analysis leading to the development of mitigation measures to keep the project from aggravating the situation. The fact that acculturation is already going on is not an excuse for its unmitigated acceleration. Although I am emphasizing potential social impacts on Kaktovik here, I would certainly anticipate that similar effects might occur on other communities -- both native and white -- at various points along the route. A genuine anthropological evaluation of the social changes that the project may occasion, and of means to alleviate those that will involve difficult individual and group adjustments, is certainly called for.

I hope these brief comments and suggestions are of use to you in preparation of the Final EIS and development of this important project. If I can be of any assistance to you in the future, please feel free to contact me.

Sincerely yours,

Thomas F. King,
Administrator



COMMITTEE FOR THE PRESERVATION OF THE TULE ELK

Help Save This Beautiful Animal From Extinction

5502 Markland Drive • Los Angeles, California 90022 • Phone Area 213-723-2924

October 9, 1975

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EIS TASK FORCE
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Gentlemen:

The statement on p.IV - 1718 -"It is impossible at this time to accurately assess and qualify the total ecological considerations of construction and operation of the 1,119 mile proposed pipeline" is evidence in itself that the pipeline should NOT be built.

To risk massive irrevocable and irretrieveable environmental damage to vast and sensitive areas of the North American continent for a possible short term (20 year) gain for a small, exceedingly small, area is unjustified, unacceptable, and UNNECESSARY.

Knowledgeable members of this organization have personally inspected the Alaskan scene, its particular environmental problems, the relationship of pipeline proposals to Refuges, Game Ranges, and key habitats, and conclude that the Tanker alternative is the only tolerable solution.

In spite of its size, we find it necessary to report that the EIS is incomplete, vague, in many instances inaccurate, and lacking in objectivity.

To lean so heavily on information supplied "by the applicants" is like calling in the Second Story Man to guard the bank.

Catagorically, The Committee for the Preservation of the Tule Elk opposes construction of any pipeline because of the adverse environmental impact, specifically upon wildlife and wildlife habitats. It believes that any consideration of pipeline through any National Wildlife Refuge, Game Range, or ciritcal habitat area FAILS necessary environmental understanding, and should be ruled out.

With regard to proposals to southern California, and through the Owens Valley, we find the EIS too contradistory. It is difficult to see why the "preferred route" can possibly be preferred for reason of distance, terrain, and certainly for environmental considerations.

A tax deductible non-profit organization dedicated to the protection of one of the world's rarest mammals.

The preferred route would go through a prime calving area of the threatened Tule Elk, would effect the only habitat of the threatened Black Toad, would disrupt the diminished habitat of the threatened Bighorn Sheep, and many rare and endangered species.

As noted in the EIS, it would open up a corridor for Off-Road Vehicle use, the scourge of the desert and disaster for critical wildlife habitat.

In summary, on the basis of incomplete, inaccurate (in part) information, of heavy reliance upon information from self-serving sources, and notable contradictions, we find the EIS unsatisfactory.

On the basis of proposed pipelines, we find the "preferred route" through the Owens Valley, most disasterous.

On the basis of method of transportation of Natural Gas with the least environmental damage, we find the TANKER alternation to be the least objectionable...... therefore, preferred.

However, we would urge that maximum safeguards be imposed to insure that the tankers got their cargo delivered without leakage, spills, and destruction to marine life.

Sincerely,

Beula Edmiston

Beula Edmiston

✚

THE AMERICAN NATIONAL RED CROSS
NATIONAL HEADQUARTERS
WASHINGTON, D.C. 20006

October 9, 1975

Gentlemen:

This letter relates to the Draft Environmental Impact Statement dated June 1975 which includes a proposal to establish a pipeline through parts of Nevada and California as part of the Alaska National Gas Transportation System. It is my understanding that the "preferred route" in Inyo County, California would pass through Deep Springs Valley.

This proposal is incredible when one takes into account the alternate routes that are available. I want to register my strong belief that the route through Deep Springs Valley should not be considered.

The specific territory in question is well known to me. My next visit to Deep Springs Valley will take place this month and I can assure you that I have a current understanding of the geographical and ecological factors involved from the northern tip of the White Mountains and as far south as the town of Lone Pine, California. Some years ago, I lived for three years in Deep Springs Valley. As a conservative estimate, I would say that I have visited there - or vacationed there - on 15 separate occasions covering a span of 35 years. These visits have been subsequent to my residence at Deep Springs.

My objection to the "preferred route" can be very simply expressed in the following two points:

1. Alternate routes are available, either in California or Nevada that lie within areas that have already been invaded for transportation purposes and where the human impact has already occurred in far greater measure. One would surmise that construction would be much simpler using one of the alternate routes. In any event, it is appalling to even think of constructing a third "transportation corridor" through one of our few remaining remote areas when other feasible alternates are available.

2. If the pipeline were constructed on the "preferred route", it would destroy the unique environment of Deep Springs College. This college has existed for more than 57 years. It depends upon the uninhabited desert valley and the surrounding mountains ss a major factor in its educational plan. It is one of the very few colleges in the United States that prepares gifted students for future leadership in our society. It is the only such institution that depends upon isolation and practical outdoor work in an unspoiled setting.

-2-

I trust that you will give full consideration to these views. They come from an intimate knowledge of the terrain and from the strong conviction that a pipeline along the "preferred route" would do irremediable damage to an environment and an institution that are rightfully part of our nation's assets.

Sincerely,

Frederic S. Laise
Senior Vice President

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U. S. Department of the Interior
Washington, D.C. 20240

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Please address reply to:

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University of California
Berkeley, California 94720

October 6, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Intarior
Washington, D.C. 20240

Gentlemen:

I am writing to buttress the comments sent to you on September 30 from John E. Mawby, Acting Director of Deep Springs College, Deep Springs, California, on the Draft of the Environmental Impact Study (EIS) of the proposed Alaska Natural Gas Transportation System.

I have been aware for some time of the proposed route for the pipeline which would permit it to traversa tha length of Deep Springs Valley. I have had long discussions with Dr. Mawby and with others who know the Deep Springs Valley area, and I am convinced that the route proposed is not the optimal one. It would create more damaga to the environment, both contemporary and future, than would a pipeline over the alternate route over Montgomery Pass. The EIS Task Force seems not to be aware of the existence of a 60-year-old College in Deep Springs Valley and of the relation of the natural environment to that College's mission.

I have read very carefully the comments on the Draft EIS sent to you on September 30 by Dr. Mawby. I should point out that Dr. Mawby does not speak as an amateur. Before receiving his advanced degree he worked for some time as a geological field assistant for the Union Oil Company. He holds a B.A. degree in geology and a Ph.D. degree in paleontology. Since receiving his Ph.D. he has taught in the field of geology and paleontology and has been on field expeditions in various parts of the world for the purpose of collacting paleontological specimens. He has been a resident of Deep Springs Valley for several years. I suspact that when he talks about the impact of the proposed pipeline on the natural resources of Deep Springs Valley he is speaking with as much expertise as exists anywhere.

As Chairman of the Board of Trustees of Deep Springs Collage, and as one who has known Deep Springs Valley for 45 years and wants to preserve it, I urge a re-evaluation of the Draft EIS and a keener recognition of the harmful long-term consequences of placing the pipeline on the route where it is now planned.

Sincerely yours,

Robley C. Williams

Robley C. Williams, Chairman

October 12, 1975

Dear Sir,

We respectfully request that these opinions be included in the hearing record on the proposed gas pipeline which will extend for 6280 miles starting at or near Prudhoe Bay, Alaska and running through Canada and Montana before branching to send gas to both the East and West Coasts of the United States.

The fact that this undertaking might be the largest privately financed developement ever undertaken need not necessarily be a point in it's favor. Biggest doesn't necessarily mean best.

The proposed route through Canada is a questionable one. A possible route is parallel the existing oil pipeline in Alaska and would keep this valuable energy source under the control of the U.S. Government and not subject to take over by a foreighn country. Canada is a friend and ally at this time but political changes are always a possible and some future governement there might find it necessary for the countries security or their own energy needs to terminate the agreement.

We favor following the right of way of the oil pipekne in Alaska.

This alternative would not only be much cheaper to construct because the needed access roads and supply and living quarters already exist, but would negate the need for destruction of any more of the countryside. Since some of the same companies are involved in both projects ,arrangements should be simple to work out.

One proposal would run completely across the Artic Wildlife Refuge. Millions of ducks and geese, shorebirds and songbirds nest in this area and the disruption of at least one years nesting efforts would be total in the area of construction. Future disruption would be certain because of the need for men to protrol and oversee the operation. Mechanical operations are in constant need of repair and men and machineryto accomplish the operation would constantly be present at some points. This proposal shows great disregard for the wild resources of both Alaska and Canada.

Economics alone would dictate a parallel route with the Alaska oil pipeline. The route is shorter. The necessary geological and survey work has already been done within that right of way and construction could therefore be started much sooner. Sine we are in such dire need of this energy source, speed is an important factor.

we trust that these thought will receive due consideration.

The Yellowstone Valley Audubon Society
Mrs. Leon Hicks Pres.
Rte. 1 Box 95
Joliet, Montana 59041

NPCA

STATEMENT FOR THE RECORD
SUBMITTED BY THE NATIONAL PARKS AND CONSERVATION ASSOCIATION
TO THE ENVIRONMENTAL IMPACT STATEMENT TASK FORCE
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
BUREAU OF LAND MANAGEMENT

OCTOBER 24, 1975

Dear Sirs,

The National Parks and Conservation Association appreciates this opportunity to share our views on the Alaska Natural Gas Transportation Draft Environmental Impact Statement.

NPCA acknowledges the need of the United States for new Natural Gas supplies to offset shortages we are now experiencing and which will continue to grow worse. We know that the need to develop domestic gas sources immediately is important to the economic stability of the country. While our primary interest is in the protection of the Alaskan natural resources and the integrity of public lands, we recognize the need for decision making in this case based on both environmental and economic considerations.

It is regretable, therefore, that the DEIS has omitted some very important assessments of environmental impacts and has paid little attention to the comparitive economic costs and benefits of the alternative proposals.

With regard to the proposed crossing of the Arctic National Wildlife Range, NPCA is unalterably opposed to such a plan. The effect on the very fragile ecosystem of construction and maintenance

is obvious. The animal wildlife will be detrimentally and in some cases permanently affected. Pipe damage could be caused by slope failure resulting from destruction of vegetation and by alteration of water drainage patterns and subsequent permfrost distrubance. Repair work done during surface thaws would even more heavily damage the already degraded area.

Most important, construction of the pipeline would be antithetical to the existence of the wildlife range. A decision to build the pipeline across the range might set a precedent for management of other wildlife ranges which would destroy the entire system. Permitting such a large-scale incompatible activity in one wildlife range would make it all the easier to permit lesser, but environmentally disruptive activities in other wildlife ranges.

The possible impact on Endangered Species of animals and plants is a matter of highest concern. The body of knowledge on many of the endangered and threatened animals is limited, making it impossible to adequately assess effects of large scale disruption of their habitat or to propose viable alternatives and solutions. Plants are in an even worse position. There is not yet an official list of endangered plants by which to determine whether or not there will be adverse impacts. It is possible that one or more species could be eradicated without our ever knowing that it existed. Furthermore, the DEIS reports that the populations of other animals will be reduced. This will have an adverse affect upon other species dependent upon those reduced.

Finally, there is no supportive evidence that Arctic Gas will be able to complete its construction within the winter months as it proposes. There is a need for further assessment of the feasibility of winter construction.

Economic considerations are the raison d'etre for the gas line proposals, yet the DEIS fails to include enough economic information to allow one to make a reasoned assessment of the alternatives. Although El Paso Alaska Company has made comprehensive proposals, its data and that of other proposals were not presented in sufficient detail. We are very concerned that no attempt has been made to develop a cost-benefit analysis. It would be very helpful in the decision making process which will soon take place, if there were individual analyses of each proposal and a comparative analysis of all the proposals.

Furthermore, we feel that a study as to the long-range costs and benefits of such a project is of primary importance. The possibility that there may be adverse long-range or even short-range economic effects should not be ignored at this time.

NPCA feels it is imperative that in our rush for energy self-sufficiency, we not lose sight of the importance of protecting other irreplaceable natural resources. Therefore, we regret the limited scope of the DEIS in studying only a proposal, implementation of which would obviously be detrimental to the environment of the areas it involves.

National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036
Phone: 202-483-1550

November 10, 1975

Mr. Roman Koenings, Project Manager
Alaska Natural Gas Transmission System
Bureau of Land Management (302)
Room 1538
U. S. Department of the Interior
Washington, D. C. 20240

Re: Alaska Natural Gas
Transportation System Draft
Environmental Impact Statement

Dear Mr. Koenings:

The following are the preliminary comments of the National Wildlife Federation ("NWF") on Parts IV and V of the draft environmental impact statement on the proposed Alaska Natural Gas Transportation System (the "Statement"). They are intended to supplement but not complete the partial response submitted by NWF by letter dated October 13, 1975.

In its October 13 letter NWF requested an extension of the period for comment of at least ninety days. Inasmuch as there has been no response to our request which we hereby renew, we have attempted to make at least a preliminary review of additional parts of the Statement.

With respect to the California section of proposed distribution system, NWF believes that although each of the routes discussed will have adverse environmental impacts, the Cajon route is preferable to the Antioch route. Although the Antioch route parallels an existing pipeline from the California-Oregon border to Antioch, it passes through an area of much denser vegetation with a greater abundance of wildlife than the Cajon route. More specifically, the Antioch route involves a threat of serious interference with the nesting of northern California raptors. Thus, should this route be selected, it will be essential that the applicant's mitigation proposal #1 which provides that construction will be timed to avoid "peak" wildlife nesting periods "whenever possible" be altered to provide that construction shall be timed to avoid raptor nesting periods. Similarly, it will be necessary to require that deer fawning and elk calving areas and deer and elk migration routes along the pipeline route be identified and construction be timed to avoid interference with the spring deer fawning and elk calving periods and critical spring and fall migrations.

Similarly, if the Antioch route is selected it will be necessary to require that the multiple river crossings be timed to avoid critical fish spawning and migration periods.

In addition to the foregoing, NWF believes that the various mitigation proposals set out in Part IV, Volume 2, pp. 739-765 and Volume 4, pp. 1835-1931 should be adopted if this route is chosen.

Although the Cajon route passes through a more arid portion of California, with less wildlife and a more gradually sloping terrain than the Antioch Route, the mitigation proposals discussed in connection with this route should be adopted if this route is followed.

Although we attempted in the short time available to make at least a preliminary review of the Northern Border portion of the Statement, we discovered that because the Statement focusses on corridors rather than on specific routes and because the scale of the maps included in the Statement is too small to determine exact location of the corridors, we would be unable to determine the nature and extent of the impact which the project would have in most of this region.

We are particularly concerned about the effects which this project could have on the Badlands of North Dakota and the Coteau des Prairies (the prairie pothole wetlands) of North Dakota, South Dakota and Minnesota. It appears to us that the disruption of the very frail topsoil structure characteristic of the Badlands would make revegetation very difficult and could lead to severe erosion, particularly where sharp slopes are involved. The very broken nature of the terrain and the near arid climate of this area support a unique plant ecosystem. The violent disruption of the delicate interrelationship of the plants and soils of this region which would attend the construction of the pipeline, would, in our opinion, make successful rehabilitation following construction very difficult.

The Coteau area is the nation's most productive waterfowl breeding area. Therefore it is extremely important that the Statement explain the impacts which the project would have on this area. From the scale of the maps included in the statement and the other information presented, we are unable to determine which of the many game management and waterfowl production areas scattered throughout this region would be impacted by the project or the nature of that impact. In short, in spite of its bulk, the statement is insufficient, at least with respect to its discussion of the impacts which the

proposed pipeline would have in this wildlife-rich area. In spite of the limitations imposed by the lack of precise information available in the Statement, it would appear, at least preliminarily, that Alternative 5 is the best of the various routes discussed in the Statement.

Finally, although our review of the entire statement is not complete, NWF is concerned about the apparent failure of the Statement as a whole to deal with what might be called the "secondary effects" of the proposal. For instance, the Statement fails to address the social impacts which the construction will have on areas through which the line will pass. Similarly, the Statement fails to quantify the nonrenewable resources which will be expended in the construction and operation of the system.

I hope that the foregoing comments will be helpful to you in the development of a final impact statement. In view of the shortcomings in the draft statement, we believe that a second draft should precede the preparation of the final impact statement.

Very truly yours,

Joel T. Thomas

Joel T. Thomas
Counsel

JTT:jb

Audubon Council of Illinois, Inc.

A COUNCIL OF NATIONAL AUDUBON SOCIETY CHAPTERS

615 Rochdale Circle
Lombard, Ill. 60148

Oct. 24, 1975

EIS Task Force
Alaska Natural Gas Trans. System
Room 1538
BLM Divn, Interior Dept.
Washington, DC 20240

Dear Sirs:

Please enter into the record our opposition to a proposal to route the proposed Arctic Gas Transmission System pipeline through the Starved Rock Nature Preserve in Illinois.

We feel this is highly irregular, and unacceptable.

Since alternative routes have been suggested, we feel that the destruction of the nature reserve, set aside by a legal commission of the state of Illinois is wholly unwarranted.

We find it incredible that efforts are being made to route the pipeline across the Arctic National Wildlife Refuge in Alaska. Every effort must be made to protect this area, which has only recently been set aside to protect the wildlife of the tundra area.

We would be pleased to learn of the final choice made in routing this pipeline.

Very truly,

Raymond Mostek

Raymond Mostek, State President
Audubon Council of Illinois

FRIENDS OF THE EARTH
114 N. CARROLL STREET
MADISON, WISCONSIN 53703

October 25, 1975

Roman Koenings
EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management
US Dept. of Interior
Washington, D.C. 20240

Dear Sir,

With regard to the proposal for a 2,000-mile gas pipeline from Prudhoe Bay, Alaska through the upper Midwest, we of the Madison Chapter of Friends of the Earth strenuously object to the routing of the pipeline through the Wapsipinicon Bottoms in the Upper Mississippi Fish and Wildlife Refuge near Shaffton, Iowa. As currently proposed, the pipeline will cross a 3,000-acre proposed wilderness area (the Wapsipinicon Bottoms Wilderness Unit). Fish and Wildlife Service hearings have been held on the subject of wilderness designation for this and other areas along the Upper Mississippi, and public support for such designation was overwhelming: of 830 letters received by the Service on this issue, 811 supported wilderness designation; only six letters opposed such designation.

We of the Madison Chapter believe that it would be a relatively simple matter to move the pipeline route a few miles south to Princeton,Iowa, to avoid the ecologically valuable Wapsipinicon Bottoms area. There is much public support for our position, although you in the BLM may not be aware of it yet due to the lack of publicity surrounding the pipeline proposal.

No part of this letter should be construed as implying support for the rest of the 2,000 mile route.

Sincerely,

Ronald Auler

Ronald Auler

National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036 Phone: 202-483-1550

October 13, 1975

Mr. Roman Koenings, Project Manager
Alaska Natural Gas Transmission System
Bureau of Land Management (302)
Room 1538
U.S. Department of the Interior
Washington, D.C. 20240

Re: Alaska Natural Gas
Transportation System Draft
Environmental Impact Statement

Dear Mr. Koenings:

The following comments constitute the partial response of the National Wildlife Federation ("NWF") to the draft environmental impact statement on the Alaska Natural Gas Transportation System (the "Statement") released on July 28, 1975.

NWF is the largest private conservation education organization in the United States. Incorporated in 1939 under the laws of the District of Columbia where it presently maintains its principal offices, NWF is dedicated to the restoration, wise use, scientific management and conservation of the wildlife and other natural resources of North America. Individual members of clubs affiliated with NWF's state affiliate organizations in all fifty states, the Commonwealth of Puerto Rico, Guam and the Virgin Islands together with NWF's individual associate members and supporters number some 3 1/2 million persons.

Because of the size and scope of the Statement, NWF has been and will be unable to complete its review of the entire Statement within the ninty-day period announced at the time the Statement was released. Thus, the comments which follow relate only to the portion of the Statement dealing with the impact of the proposed system on Alaska. In order thst we may have an opportunity to complete our review of the entire Statement and submit appropriate comments, we request that the comment period be extended at least an additional ninety days.

At its annual convention earlier this year, NWF adopted a resolution regarding the natural gas transmission in Alaska. The resolution which calls for a comprehensive study of all alternatives states:

> "[U]ntil such information is available, the National Wildlife Federation will consider, without endorsement, only that route which presents: 1. adequate pre-project environmental assessments which provide a basis for judgment from the standpoint of environmental impact; 2. provides the most efficient and hazard-free method of transportation; 3. assures maximum conservation of energy; and 4. meets the broadest national interest consistent with environmental safeguards."

After devoting much effort to reviewing the draft environmental impact statement, we conclude that it does not provide an adequste pre-project environmental assessment of the alternatives upon which a firm judgment can be made. The most serious defect in the statement is its failure to include any discussion of the El Paso Alaska Company (EPAC), proposed to transmit the gas to the southern coast of Alaska, liquify it and transport it to the lower 48 states in cryogenic tankers. Obviously adoption of this alternative would completely alter the project and its impacts both in Alaska and the lower forty-eight states. In concluding that the Statement is fatally defective because of the omission of a discussion of the EPAC alternative, we are aware of the uncooperative position taken by the Federal Power Commission. As unfair and unfortunate as the FPC's position may be, we do not see how the Department of the Interior can proceed without a full consideration of the EPAC Alternative.

With respect to the alternatives actually considered, we base our review upon the need to minimize the intrusion into sensitive areas; avoid high risk estuarine and marine environments and areas of known wildlife values; and the national need for energy. It long has been our fervent hope that the United States will embark upon a major effort to identify and develop safe energy sources which can reserve finite hydro-carbon resources for essential future needs, such as food production and medicines, rather than exploiting them in this age for fuel.

NWF is, of course, aware that the proposed gas tranmission system well may be the largest engineering project ever undertaken by man, eclipsing the Alaska Oil Pipeline in distance, scope, and cost. Such an enormously complex and extensive project offers a great challenge to the entire environmental impact assessment process established by the National Environmental Policy Act (NEPA). Unless reliable data, unaffected by personal opinions and biases, are developed through environmental impact assessments, the whole NEPA process is in jeopardy. It is for projects such as these that the NEPA process is designed. We believe that the process helped improve the oil pipeline proposal and will improve the present project as well.

In view of the foregoing, NWF believes that the draft statement should be reviewed by a panel of competent scientists who are unaffiliated with either the natural gas industry or government agency involved with the project.

Questions raised by onr review of the draft statement include the following:

Did the EIS writer err on the Arctic gas energy penalty (p. 518, Vol I) in comparison with LNG data? Would the pipeline use less or more energy than the pipeline-conversion-ship-conversion-pipeline process in transporting a given volume of gas to southern markets?

The EIS states that "implementation of the Applicant's proposal will eliminate most of the Arctic Slope portion of the Arctic National Wildlife Range from the National Wilderness System. It is possible that some of this area may be so affected as to no longer qualify for inclusion in the National Refuge System due to loss of its wildlife habitat" (p. II, 1293). Persons associated with the Alaska Wildlife Federation and Sportsmen's Council, Inc., who are well acquainted with the region, say only temporary damage would occur to vegetation and wildlife within the Range. Further, they do not consider the coastal route a threat to fish, waterfowl, caribou, musk oxen, grizzly bear, polar bear, or falcons. Consequently, upon what data did the EIS writer base his assertions? What habitat would be lost aside from the small tracts required for compressor stations?

Can DOI substantiate the claim that the pipeline would bisect the traditional calving area of the Porcupine Caribou Herd (p. II, 771)? It is our understanding that all construction in that area would occur in the winter when the animals will have moved to other areas.

Did DOI, in the allegation that the snow geese fall staging area would be disturbed by aircraft, take into account the Applicant's proposal to forbid all air operations at the critical periods?

To conclude, we hope and trust that errors will be removed and more data supplied before a final EIS is produced and made available for public hearings. These, of course, should be conducted before any decision is made to grant permits for rights-of-ways.

Sincerely,

THOMAS L. KIMBALL
Executive Vice President

cc: Ken Brynaert, Canada
Tom Riley, California
Urban Nelson, Alaska
Bud Boddy, Alaska
P. W. Schneider
Edwin Merrick
Charles Griffith

G. Ray Arnett
William Reavley
C. Clifton Young

FRIENDS OF THE EARTH

DAVID BROWER, *President*

BOX 1796, FAIRBANKS, ALASKA 99707

(907) [illegible] 479-3684

JIM KOWALSKY, *Alaska Representative*

October 24, 1975

TO: U.S. Bureau of Land Management
FROM: J. Kowalsky, Alaska Representative, Friends of the Earth
SUBJECT: Additional Comments on Department of Interior Draft Environmental Impact Statement on Alaska Natural Gas Transportation System

These comments on "The Alaska Natural Gas Transportation System"suppliment those which were offered before the Department of Interior hearing on October 2, 1975. The comments were offered on behalf of the American Littoral Society; Chesapeake Chapter, American Littoral Society; Committee for the Preservation of the Tule Elk; Defenders of Wildlife; Friends of the Earth; International Fund for Animal Welfare, USA; Let Live, Inc.; and The Fund For Animals.

Questions were asked from the hearing panel at the Department of Interior's October 2 hearing which related to the adequacy of the current enforcement effort on the construction of the trans Alaska oil pipeline project now under way in Alaska as that effort relates to the evaluation of construction plans for a natural gas pipeline from Alaska. Statements were also made at this hearing which suggest that surveillance efforts for construction of a natural gas pipeline may be reduced from those of the current level.

These remarks address adequacy of pipeline stipulations, adequacy of enforcement of such stipulations as witnessed in the current oil pipeline construction in Alaska, and the adequacy of responsiveness of federal pipeline surveillance personnel to public inquiry and input into the ongoing process of pipeline construction.

It is hoped that you will address these considerations as they relate to the construction of a natural gas pipeline system in Alaska, and that you will address specific points which relate to these concerns in your final environmental impact statement for this project.

Adequacy of Enforcement of Stipulations for Pipeline Construction

We believe that enforcement of stipulations for the construction of the trans Alaska oil pipeline has not been sufficient to prevent damage to the environment and to the fish and wildlife which are located within the areas affected by the pipeline including streams and rivers. In support of this contention, we hereby submit to be included in the hearing record for this impact statement: An Analysis of Environmental Stipulation Compliance on the Trans Alaska Oil Pipeline by Alan Carson, Supervisor, Pipeline Surveillance, Alaska Department of Fish and Game.

Specific areas addressed by this report which are considered to be examples of inadequate enforcement include the following:

1. Alyeska Pipeline Service Company (APSC) had not included fish passage criteria for drainage designs required to meet Stipulation 2.5.1.1. Culvert water velocities studied at sites of culverts installed at small stream crossings for the haul road and gravel work pad reveal that most are too high to allow for fish passage. In addition, low water crossings were determined to ~~be~~ of unsuitable design for such crossings which would be utilized by traffic heavier than such crossings could sustain resulting in environmental damage such as downstream siltation. Suitability of streams for low water crossings was made without on site inspection of such streams; few if any crossings were built according to stipulations. This resulted in severe downstream siltation. Associated damages include uncontrolled erosion, lack of stream restoration and clean-up after culverts were installed, and pollution of streams resulting from culvert heaters to prevent icing fired by oil in Section 4 of the pipeline.

We wish to know how these problems associated with improper culverts and low water crossings would be prevented in gas pipeline construction.

2. Buried pipeline sections produced problems with lack of erosion control and restoration to damaged areas, lack of control in these matters by the pipeline builders over its execution contractors, lack of soil stabilization of soils resulting in flow of same into stream waters.

We note concern for similar problems to result from gas line construction, but we fail to note how Interior would change its requirements and procedures to correct this intolerable situation. Carson considers the lack of erosion control and rehabilitation efforts by the oil pipeline builder as the "most obvious shortcoming" of that project. Since the gas line would be buried, Mr. Carson's observations about buried pipelines across streams is relevant and urgent.

3. Mr. Carson notes that communications between the builder and various execution contractors is so poor that such contractors seem not to know what committments the builder has made.

4. Mr. Carson laments that improper pipeline activities have taken place within floodplains, and that a common violation of Stipulation 3.6.1.1.1.6 has resulted which requires the use of channel plugs on stream crossings.

5. Mr. Carson notes that almost nothing is known about the effects of pipeline construction activities on Arctic streams, and that due to this ignorance and the subsequent poor construction practices resulting therefrom, some stream alterations have reduced stream productivity "by more than 90 percent" (emphasis added). We submit that this sort of ignorance is unacceptable, and we see very little in your draft environmental statement on this natural gas pipeline to suggest how the kinds of errors and non-compliance Mr. Carson outlines can be prevented.

Mr. Carson notes that "...the technology for erosion control and rehabilitation are available" and then notes that desire on the part of the builders seems lacking in order to bring these abilities to bear. He notes that inadequate quality assurance and quality control are sadly lacking, and that the numerous reports of the Joint Fish and Wildlife Advisory Team's surveillance reports demonstrate that such efforts are "non existent or at best inadequate." One can only wonder with what degree of trust can we really rely upon the Department of Interior to enforce stipulations for the construction of pipelines when reports such as this demonstrate Interior's substantially significant inabilities to do so, and how will Interior respond to these inexcuseable inadequacies?

Mr. Carson also notes that even the very best stipulations are useless in the face of incompetent enforcement or of the lack of the federal government to do that enforcement. He notes that "Most significant is the lack of a concise stipulation calling for mitigation of terrestrial and aquatic habitat lost by pipeline construction and operation." (page 9). We especially note here that this is of major concern to the proposal to cross the Arctic National Wildlife Range, to use surface waters in short supply to manufacture artifical snow to build ice and snow roads (because adequate snowfall is not a feature of the Arctic coastal plain).

We also note that often Mr. Carson's report tells us that too little is known about these regions in order to build a pipeline without damage, and that too often, therefore, it is being built on a trial-and-error basis with environmental damage occuring before it can be stopped or redesigned.

In his recommendations (page 10) he warns about the promises that certain construction practices are made which later prove to be impossible to follow, and that such a situation is the result of too little knowledge about the Arctic. We submit that the draft environmental impact statement clearly does not insure the reader that this is not again going to be the case in the construction of the gas pipeline.

His suggestion that qualified fish and wildlife biologists must give resource input into the earliest planning stages for the project should be heeded and specifically reflected in the final evaluations of this project.

Of particular note is Mr. Carson's suggestion that fish and wildlife surveillance biologists should have more authority to halt construction when violations of stipulations are noted to be leading to inevitable environmental damage. We request that the Joint Fish and Wildlife Advisory Team's role be changed; in effect, we submit that surveillance responsibilities for construction of a gas pipeline should include this advisory team with a role not advisory but rather one with enforcement authority. The final impact statement should address this suggested enforcement structure.

Adequacy of Federal Monitoring Agency To Public Input

We submit that the Alaska Pipeline Office (APO) which has the responsibility to monitor and enforce stipulations for the construction of the trans Alaska oil pipeline has purposely set for itself a policy of urging construction forward with the greatest possible speed at all or most costs, and that the APO has established a deliberate policy of alienation of public input and of deliberate thwarting of requests by the public to be informed of the progress of the construction of the oil pipeline and of the level of enforcement with which it had been charged. To illustrate this policy, we have enclosed for the record copies of a series of correspondence between the APO and an Alaska citizen who requested information of that office as regards violations of pipeline stipulations.

The illustrative example included herewith is correspondence between one G.M. Zemansky of Fairbanks, various officials of the APO and of the Department of Interior.

Mr. Zemansky had made requests for specific information relating to the lack of compliance for stipulations regarding wastewater treatment, for example, and had asked to be informed how APO would carry out its mandates to enforce such stipulations.

Of particular relevance is this May 28, 1975 response from Morris J. Turner who is an authorized APO representative: "...it would be highly inappropriate and improper to discuss with you or reveal to you, or any other member of the general public, specific enforcement plans this office may be considering,..."

Subsequent correspondence also enclosed demonstrates that the APO has no intention at all to respond to the questions submitted, and the whole exchange develops into a series of stalling tactics using questions of proper use of the Freedom of Information Act.

We submit that, in view of Mr. Carson's findings, plus other evidence, and in view of the APO's refusal to explain its own programs, that the APO is not doing its job of surveillance and enforcement of stipulations for the construction of the trans Alaska oil pipeline.

Furthermore, we feel that the APO has demonstrated a deliberate arrogance and contempt for the general public in the matter of enforcement and of making its information about that enforcement freely available to the public. This matter is serious enough as it relates to the safe construction and operation of the oil pipeline, and we view it as being very important to the matter of stipulations for the gas pipeline and enforcement of those stipulations. We submit that the APO appears to be functioning inadequately as enforcer, that it has served incompetently and, as such, is a disgrace to the federal government and to the public for which it serves, and, we cite this example to illustrate the great necessity to greatly overhaul the monitoring and enforcement mechanism which would be used for construction of the natural gas pipeline in Alaska.

We submit that the need to provide an effective surveillance mechansim in order to construct a gas pipeline is of major importance and that it should receive careful thought and major treatment in your final environmental impact statement for this project.

One suggestion for evaluation would be to structure a surveillance team which includes wildlife and fisheries biologists jointly from the state and federal sectors. Such a team should also include at least two representatives from the private sector. It must be empahsized here that no surveillance which is completely independent of industry influence (Alyeska paid for the surveillance), or of state and federal governments, has been in effect for the current project. One independent effort has been widely recognized to be of little or no consequence due to the fact that it has made only two short trips to view the project since construction has begun. There have been no other independent efforts or attempts, and we submit that such inclusion of members independently from the private sector, in some manner, would greatly improve the credibility of the surveillance work and would also improve the communications with the public so as to allow continuation of public input and participation in this project beyond the environmental impact statement hearings and comments now in progress.

Thank you for receiving these views. We sincerely hope that this information and these suggestions will be evaluated within the context of the final environmental impact statement for this project, and that the specific suggestions will be so handled in a specific context and manner in the final statement.

Sincerely,

J. Kowalsky
Alaska Field Representative
FRIENDS OF THE EARTH

THE FLORIDA STATE MUSEUM
UNIVERSITY OF FLORIDA
DEPARTMENT OF NATURAL SCIENCE

FSM

the florida
state museum
museum road
university
of florida
gainesville
32611
904/392-1721

October 15, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Dear Sir:

I am deeply disturbed by the plans that propose to construct a pipeline through Deep Springs Valley, the Inyo National Forest, Wyman Canyon and the Bristlecone Pine forest, opening this whole area to Off-Road Vehicles.

I trust you will give higher consideration to less destructive routes that would follow already existing major highways and through Kingsgate to Cajon.

If you wish further information from me feel free to ask it.

Sincerely,

Dave

S. David Webb
Curator in Vertebrate Paleontology
Professor in Zoology and Geology

SDW:paw

DEEP SPRINGS COLLEGE
DEEP SPRINGS, CALIFORNIA

POSTAL ADDRESS:
VIA DYER, NEVADA 89010

6 October 1975

EIS Task Force
Alaska Natural Gas Transportation System
Room 1538, Bureau of Land Management (302)
Department of the Interior
Washington, D.C. 20240

Gentlemen:

I enclose a copy of comments on the Alaska Natural Gas Transpostation System Draft EIS, which I submitted at the public hearings in Reno, Nevada, October 2-3. I hope to submit further written comments, expanding upon some of the points therein, before the October 28 deadline.

I should like at this time to add some comments on the public hearings. Most unfortunately, the Reno hearings must be accounted on the whole as a failure, an expensive waste of time. It appeared that no more than fifty people attended the hearings, and only ten or twelve submitted testimony (I am told that the turnout for the hearings in Sacramento and in Portland was even smaller.) Moreover, it was obvious that only a few of those attending had read any portion of the Draft EIS.

I hasten to add that the failure was not the fault of the Hearing Judge, who did a fine job, nor of the other local Department of the Interior officials involved.

At least a part of the failure of the Reno hearings must be blamed on an unfortunate series of newpaper articles, appearing just before the date of the hearings, which misleadingly indicated that the proposal for the southern California leg of the pipeline had been abandoned, rather than just temporarily shelved. It is unclear whether the media were entirely at fault, or whether they were given misleading information by the applicants.

A more general problem was the inadequate public awareness of the Draft EIS and of its contents. Here I feel that the Department of the Interior was at least partly to blame. There should have been much more effort to inform the public, beginning when the Draft EIS was released, or preferably before. Perhaps one way this might be accomplished in future instances would be by distribution of copies of any Draft EIS to the editors of all newspapers, and the news directors of all television and radio stations, in the area to be affected by the proposed project.

Yours sincerely,

John E. Mawby

John E. Mawby

TELEPHONE (714) DEEP SPRINGS NO. 2 TOLL STATION
BISHOP, CALIFORNIA

DEEP SPRINGS COLLEGE
DEEP SPRINGS, CALIFORNIA

POSTAL ADDRESS:
VIA DYER, NEVADA 89010

24 October 1975

EIS Task Force
Alaska Natural Gas Transportation System
Room 1538, Bureau of Land Management (302)
Department of the Interior
Washington, D.C. 20240

Gentlemen:

Please add the following to my previously submitted comments on the Draft EIS.

In my previously submitted comments, in reference to the Kingsgate-Antioch-Cajon alternative, I compared the 390-mile Antioch to Cajon segment with the 1120-mile Kingsgate-Cajon proposal. Perhaps this was an overstatement, especially as the pipeline companies seem, for the moment, to have turned to the Stanfield alternative. Still, assuming that a pipeline to Cajon may eventually be constructed, some detailed comparisons would seem to be called for.

Pipeline mileage from Stanfield to Cajon along the proposed route appears to be approximately 850 miles, 460 miles more than the Antioch-Cajon route. I have attempted to gain from the Draft EIS some idea of what this difference might mean in cost and resource commitment, with very little success.

The total project involves 6,280 miles of pipeline (p. I-5). A 460-mile reduction would be about 7.3% of this total. The only cost figure I can find in the Draft EIS is an estimate of $9.57 billion for the entire project, which obviously includes much more than just pipeline construction, so this provides no means of determining the cost of pipeline mileage. In a discussion with a SoCal representative, I was given some figures which indicated an average cost of $500,000 per mile for pipeline construction in California, so it might be reasonable to guess that the Antioch-Cajon alternative would provide a saving of about $230 million in construction costs. Land acquisition costs might reduce this figure; on the other hand, easier access, shipping, and construction might increase it.

Table 7.0V.3-3 shows a consumption of 5.9 million tons of steel in the pipeline as proposed. A 7.3% reduction would mean a saving of 430,000 tons. This is clearly an overestimate, as it does not take into account the variations in pipe size in different segments of the route, but it still indicates substantial savings. Applying the same percentage to the figures for petroleum resource consumption in the same Table would be even more unrealistic, but it is evident that the savings would be on the order of several million gallons.

My point is not so much that the figures above have any great validity in themselves, but that the Draft EIS does not give the reader any better way to make comparisons between alternatives. This is a serious inadequacy in the document. The final EIS should not only include much more complete environmental analyses of the various alternatives. It should also present adequate analysis and comparisons of the economic and material resource costs of these alternatives.

Yours sincerely,

John E. Mawby

John E. Mawby
Acting Director

TELEPHONE (714) DEEP SPRINGS NO. 2 TOLL STATION
BISHOP, CALIFORNIA

AMERICAN PETROLEUM INSTITUTE
1801 K STREET, NORTHWEST
WASHINGTON, D.C. 20006

C. T. SAWYER, *Director*
Transportation

(202) 833-5710

September 10, 1975
Re: 5Z4

Mr. Roman H. Koenings, Project Manager
EIS Task Force
Alaska Natural Gas Transportation Systems
Bureau of Land Management
U.S. Department of the Interior
Washington, D. C. 20240

Dear Mr. Koenings:

Thank you for supplying the Institute with the Department of the Interior's Draft Environmental Impact Statement on the proposed Alaska Natural Gas Transportation System and your request for comments on the draft contained in your letter of July 25, 1975 to C. E. Sandler of the Institute's staff.

Since the proposed Alaska Natural Gas Transportation System dicussed in the report is a competitive private venture and other competitive private ventures have been proposed as alternatives to it, the Institute cannot comment on the specific project. We do wish to comment briefly on the draft as it applies to Arctic pipelining generally.

The Department of the Interior is to be congratulated on its analysis and explanation of many of the local environmental considerations which must be acknowledged in the design and construction of hydrocarbon pipelines in the Arctic. We do not, however, agree entirely with the impact conclusions or the relative weight assigned these factors as they might be applied to Arctic pipelines in general.

The Institute would like to record one general comment which it believes should be embodied prominently in the Executive Highlights volume of the draft and as a major premise in each of the seven sections of the final report:

The draft EIS fails to give sufficient attention to positive environmental impact which is experienced in energy consuming areas which might receive natural gas from any gas transportation system linking Alaskan producing areas with the contiguous forty-eight states. The environmental and economic benefits which will accrue from any of the alternative transportation systems which have been mentioned publicly far overide relatively minor and, in each case local, adverse impacts to which approximately eighty-five percent of the volume of the draft EIA is devoted.

It is equally clear that local measures which will satisfactorily ameliorate local adverse environmental impacts are not given emphasis equal to supposedly adverse local impacts themselves.

The Institute hopes that the Department of the Interior finds these comments helpful.

Very truly yours,

C T Sawyer

C. T. Sawyer

OREGON ENVIRONMENTAL COUNCIL
2637 S.W. WATER AVENUE, PORTLAND, OREGON 97201 / PHONE: 503/222-1963

A.F.T.E.R., Tigard
AMERICAN ASSOCIATION OF UNIVERSITY WOMEN, Forest Grove Chapter
Portland Chapter
AMERICAN INSTITUTE OF ARCHITECTS
The Portland Chapter
Southwestern Oregon Chapter
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
Oregon Chapter
ANGLERS CLUB OF PORTLAND
ASSOCIATED GENERAL CONTRACTORS OF AMERCIA
AUDUBON SOCIETY, Portland, Central Oregon, Corvallis
BAY AREA ENVIRONMENTAL COMMITTEE
Coos Bay, Oregon
CHEMEKETANS, Salem, Oregon
CITIZENS FOR A CLEAN ENVIRONMENT
Corvallis, Oregon
CLATSOP ENVIRONMENTAL COUNCIL
EAST SALEM ENVIRONMENTAL COUNCIL
ECO-ALLIANCE, Corvallis
EUGENE FUTURE POWER COMMITTEE
EUGENE NATURAL HISTORY SOCIETY
FRIENDS OF THE EARTH
GARDEN CLUBS of Cedar Mill, Corvallis, Eastmoreland, Fir Grove, Gervais, Nehalem Bay, McKenzie River, McMinnville, Portland, Scappoose, Villa
GOOSE HOLLOW FOOTHILLS LEAGUE
JUNIOR LEAGUE, Eugene, Portland
LEAGUE OF WOMEN VOTERS
Central Lane
Coos County
McKENZIE FLYFISHERS, Eugene, Oregon
McKENZIE GUARDIANS, Blue River, Oregon
MT. HOOD COMMUNITY COLLEGE OUTDOOR CLUB
NEWPORT FRIENDS OF THE EARTH
NORTHWEST ENVIRONMENTAL DEFENSE CENTER
NORTHWEST STEELHEADERS COUNCIL OF TROUT UNLIMITED, Tigard, Willamette Falls
OBSIDIANS, INC., Eugene, Oregon
OREGON BASS AND PANFISH CLUB
OREGON CITIZENS FOR CLEAN AIR
OREGON GUIDES AND PACKERS, Sublimity, Oregon
OREGON LUNG ASSOCIATION
OREGON PARK & RECREATION SOCIETY
Eugene, Oregon
OREGON ROADSIDE COUNCIL
OREGON SHORES CONSERVATION COALITION
O.S.P.I.R.G.
PLANNED PARENTHOOD ASSOCIATION, INC
Lane County
Portland
PORTLAND RECYCLING TEAM, INC.
P.U.R.E., Bend, Oregon
REED COLLEGE OUTING CLUB
Portland, Oregon
ROGUE ECOLOGY COUNCIL
Ashland, Oregon
SANTIAM ALPINE CLUB
Salem, Oregon
SELLWOOD-MORELAND IMPROVEMENT LEAGUE, Portland
SIERRA CLUB
Pacific Northwest Chapter
Columbia Group, Portland
Klamath, Klamath Falls
Mary's Peak, Corvallis
Mt. Jefferson, Salem
Rogue Valley, Ashland
SOLV
SPENCER BUTTE IMPROVEMENT ASSOCIATION
Eugene, Oregon
STEAMBOATERS
SURVIVAL CENTER, U. of O., Eugene
TEAMSTERS FOOD PROCESSORS
UMPQUA WILDERNESS DEFENDERS
WESTERN RIVER GUIDES ASSOCIATION, INC.
WILLAMETTE RIVER GREENWAY ASSOCIATION
WOMEN'S LAW FORUM, U of O, Eugene
ZERO POPULATION GROWTH
Lane County Chapter

October 14, 1975

EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Dept . of Interior
Washington, D.C. 20240

Gentlemen:

The enclosed letter from T.P. Thayer to Ms. Kim Weller should be included with the comments of the Oregon Environmental Council on the Alaska Natural Gas Transportation System. The comments were submitted along with our verbal testimony at the hearing in Portland, Oregon on September 25, 1975. A copy of that testimony is also enclosed.

Thank you.

Sincerely,

Larry Williams

Larry Williams
Executive Director

LW:alh

Enclosures

United States Department of the Interior
GEOLOGICAL SURVEY
Reston, Virginia 22092

October 2, 1975

Ms. Kim Weller
Oregon Environmental Council
2637 S.W. Water Avenue
Portland, Oregon 97201

Dear Ms. Weller:

All maps that I have seen relating to earthquake activity indicate that central Oregon is seismically "dead". This is consistent with geologic field evidence that there are no signs of active faults in the region. The most recent faulting of which I know, along the John Day valley and south of Unity, occurred so long ago that the areas raised by the faulting have been deeply eroded.

Most landslides in the region seem to be inactive, although in some areas, such as north of Picture Gorge, they are moving. The main period of sliding seems to have been during the late Pleistocene, probably more than 10,000 years ago, when rainfall may have been greater than now. Many slides are so old that the lower parts have been completely removed by nearby streams, as along Canyon Creek between John Day and Canyon City.

Freedom from geological incidents along the Pacific Gas Transmission Company pipeline for 14 years since 1961 should provide assurance that with reasonable engineering foresight another line could be installed safely. I would judge that the probability of landslides being triggered by an earthquake in the area is insignificant.

Sincerely yours,

T. P. Thayer

T. P. Thayer
Geologist

HERBERT H. LEHMAN COLLEGE
OF THE CITY UNIVERSITY OF NEW YORK

BRONX, NEW YORK 10468

INTERDEPARTMENTAL
LINGUISTICS PROGRAM

(212) 960-8400

October 13, 1975

Mr. Russell A. Soulen,
Asst. Project Manager,
Alaska Natural Gas Transportation System,
EIS,
Bureau of Land Management,
Washington D.C. 20240

Dear Mr. Soulen:

I am writing in connection with the hearings held on the proposed Alaska natural gas pipeline. Since I have been unable to attend any one of the meetings, and I understand that written statements are accepted for the record till October 25, I should like to express my views in this form. I am acquainted with the Draft EIS on this subject.

One of the major issues involves the route to be followed by the new pipeline: one would take a new path across 150 miles of the Arctic Wildlife Range, while another proposal favours using the same corridor as the existing oil pipeline.

In view of the extremely negative impact the gas pipeline will have on wildlife, vegetation, and soil, even under the best conditions, it seems clear to me that under no circumstances whatsoever should any pipeline be allowed to cross the Arctic National Wildlife Range in north-eastern Alaska. The possible savings in dollars and cents are more than offset by the loss of unique habitat and wildlife. This is the finest remaining undisturbed part of the Arctic, and it must not be spoiled.

This leaves, as the least environmentally destructive route suggested by the Arctic Gas Co., the one using the present Trans-Alaskan Pipeline Corridor to Big Delta near Fairbanks, and then following the Alaska Highway to Canada, I understand that this is the route favoured by Mr. Weeden, Director of State Policy, Development and Planning for Alaska, and indeed it seems the only alternative worth even considering.

As for the sites proposed by El Paso Co. for its liquid gas facilities in California, the least objectionable site appears to be Oxnard: the Los Angeles harbor site poses obvious safety problems, and these is no valid reason for spoiling Point Conception.

In short: I would like to go on record as resolutely opposing the laying of any pipeline at all across the Arctic Nt'l, Wildlife Range, and as favoring Oxnard, in Southern California, over the alternative sites.

Sincerely yours,
Erica C. Garcia
Erica C. Garcia
Assoc. Prof.

NEVADA PROSPECTORS ASSOCIATION, INC.
P.O. BOX, 94,
FALLON, NEVADA, 89406,
August, 14, 1975
OFFICE OF THE PRESIDENT, Phone. 702 423 6231.

Mr. Ed Rolands:
Bureau of Land Management,
300 BoothSt.
Reno, Nevada, 89503.

Dear Mr Roland:

I note in news relese that you are considering holding another meeting on that Alaska gas Pipe line in Reno.

I should wish to suggest you have this Meeting in Winnumecca.

This gives interested Persons in Loveloch, Winnumecca, Battlemountain Elko and even Ely an opertunity to get some sort of information on this instulation a~~dd~~/ and where it is going and the consenquenses that may and most certainly will develope.

This will certainly develope situations of great significanse to Nevada. and Northern Calif, Oregonand Washington.

Having as you may know received the complete enviromental history of all hearings. All seventeen volumes of more than 20,000 pages, certainly I has yet not persued all of it and probably never will but the situations ahead in this activity are enourmes and most certainlg will not all be pleasent,

It will certainly have a unfavorable effect on the water situation in Nevada,

If zsomething is not done and quickly about the water in Lake Tahoe all of Nevada will be just what the Enviromentalists, screwballs radical no Constutionals liberals wish a primeval Wilderness.

To get the idea that the waters of the Columbia river are a possible solution just ask Nevada State Water-master Mr Westguard about a conservatic he had with a Citizen from Seatle, You will find that the decision about Columbis River Water is well decided now. and it no such thing,we keep our water. ~~and who can blaim them~~.
and who can blame them?

Thank you,
H. R. Conrad
H.R. Conrad.

DESERT RESEARCH INSTITUTE
University of Nevada System
Western Studies Center

Reno, Nevada 89507
(702) 972-1658

October 26, 1975.

E.I.S. Task Force
Alaska Natural Transportation System
Room 1538
Department of Interior
Washington, D.C. 20240

Dear Sirs,

I have attended both public hearings on the natural gas pipeline held in Reno, Nevada. Although public response was not all that it could have been,I do feel that certainly a representative member from most schools of thought were present and voicing their opinions.

At this point I would like to raise some points which I felt should not be spoken publicly. I have strong objections to the inclusion of very specific (i.e. to a tenth of a mile) site locations mentioned in the text of the draft E.I.S.. While I only read the Nevada portions of the report I would guess that this is the policy for the other areas under study. Archaeological sites are a non-renewable resource and should be treated with much discretion, especially when any information is included in public documents. If at all possible I would urge your task force to delete any specific references to archaeological site locations throughout the final E.I.S..

Thank you for your consideration,
Lucinda Borchard
Lucinda Borchard

cc: E.I Rowland, State Director, BLM Nevada

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September 9, 1975

Mr. Roman H. Koenings
Project Manager, EIS Task Force
Alaska Natural Gas Transportation System
Bureau of Land Management (302)
U.S. Department of the Interior
Washington, D.C. 20240

Re: Alaska Natural Gas Transportation Statement-Departments Draft EIS

Dear Mr. Koenings:

Thank you for senidng the Rocky Mountain Law Mineral Foundation a copy of the monumental Draft Environmental Impact Statement on the "Alaska Natural Gas Transportation System." We deeply appreciate receiving copies of this and will make the availahility of thereof known to the Gower Federal Service-Oil and Gas subscribers.

Yours very truly,
David P. Phillips
David P. Phillips
Executive Director

DPP/mw

LAW OFFICES
RONALD J. WILSON
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WASHINGTON, D. C. 20006

RONALD J. WILSON
BARBARA B. GRAHAM

TELEPHONE
(202) 628-3160

October 28, 1975

Mr. Roman H. Koenings
Project Manager
Alaskan Gas Transportation Systems
EIS Task Force
U. S. Department of Interior
Bureau of Land Management
18th and C Streets, N.W.
Washington, D.C.

Dear Mr. Koenings:

Enclosed are comments by the Sierra Club, the National Audubon Society, the Alaska Conservation Society and the Wilderness Society on the Alaska Natural Gas Transportation System draft environmental impact statement. I hope they will be of assistance to the Task Force in preparation of the final impact statement.

Very truly yours,

Barbara B. Graham

Barbara B. Graham

BBG/ba
enc.

COMMENTS BY SIERRA CLUB, NATIONAL AUDUBON SOCIETY, ALASKA CONSERVATION SOCIETY AND THE WILDERNESS SOCIETY ON THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM DRAFT ENVIRONMENTAL IMPACT STATEMENT

This enormous document contains much useful information and is obviously the result of considerable research effort. But there are several omissions and faults of organization which prevent it from being a valuable decision-making tool or fulfilling the purposes of the National Environmental Policy Act (NEPA). Therefore these comments are offered in the hope that they may be profitably incorporated into the final impact statement and that a better product will result.

1. Alternative routes

Among all the alternatives that must be addressed with respect to this project, including alternative sources of energy, methods of transportation and routes, clearly the latter category deserves the most concentrated study, since logically it must be recognized that the Prudhoe Bay gas resources will eventually be transported to the lower 48 states. But while the draft impact statement (DEIS), seems to concede the importance of assessing several modes of transportation and routes, by devoting many hundreds of pages to them, the material is almost useless as a decision-making tool.

a. One of the major problems is the division of the entire study into four separate regional parts. While the division

is appropriate for the presentation of detailed data on the existing environment and the potential adverse effects of Arctic Gas' proposal, this format is most confusing when dealing with alternative routes. For example, at page II-2126 in a discussion of the Fairbanks-Alcan Highway route the DEIS states that the "total Fairbanks system will cost $2.2 billion (approximately $1,700,000 more than the applied for route)." [*/] Since the total Arctic Gas proposal, even using out-of-date figures, would cost $5 to $6 billion, this sentence apparently must be referring only to the Alaska segment of the Fairbanks route and not to the total system at all. Thus the reader must first discover that fact for himself, and then find the separate applicable sections for all the rest of the components of the Fairbanks system, in order to determine the total estimated cost of that route.

The alternative routes must be compared as whole systems. A separate section of the impact statement is needed in which all the measurable paramenters that have been studied, such as cost, length, number of present and proposed parks, wildlife refuges, or scenic rivers crossed, number of endangered species affected, amount of energy and resources used, etc. are presented in map and tabular form

for each transportation route as a whole. All the necessary segments of each route must also be identified, to allow the reader to find the corresponding detailed discussions in the separate regional studies.

This need is illustrated by the sections in each regional part entitled "Comparison of Impact of All Alternatives." See e.g. page II-2435. Here the comparison among routes is limited to the Alaska segment of the system, so that all the text, maps and tables give only a partial picture of what is involved in choosing a route. The maps and the tables contain some of the pertinent data, but the maps are much too small to be of use.[*/] Their scale prevents determination of how close a route comes to a sensitive wildlife area, or for how many miles it parallels an important river. The route maps provided by Arctic Gas, which, were simply copied into the DEIS, could be used as a background to delineate in color the areas of important wildlife value, as well as parks, wildlife refuges or wild and scenic rivers, etc. But here the scale is too large to permit easy examination and comparison. Thus, in addition to gathering together similar informative maps for each segment of a pipeline route, and for all the alternative routes, the Task Force should provide maps of a useful scale.

b. In comparing alternative routes, the EIS Task Force seems content to point out that there are problems with each of the routes they studied, and to suggest some considerations upon which

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[*/] This should be $1.7 billion. See Table 8.1.1.7-2.

[*/] Other comparative data should be included, such as miles of new pipeline outside of existing rights of way; energy shrinkage in transportation;

a comparison might be based. (pages II-2437 to 2444). But they provide very little information on how one route actually compares with another, in terms of the suggested factors. This in no way fulfills their responsibility under NEPA to study alternatives.

Certainly there are adverse effects to be expected from using each of the proposed routes, but if one of these routes is going to be chosen, someone must decide which one is the best, or least harmful. The decision-maker needs hard data, and the benefit of judgments made by the experts who have looked at each of these routes.

For example, the analyses of adverse effects on caribou for each of the alternative routes are similar, almost word for word. The sections conclude that "the operation and repair of this system could have some adverse impact" on caribou in the Arctic. (see e.g. page II:2343). While true, this analysis is basically useless. Many unanswered questions remain: How much is "some"? How should the estimated potential for harm of a particular route be rated on a scale of 1 to 5? How many times would the normal migration routes of a major herd cross each of the routes? Is the fact that a "proposed route is close to the border between the Arctic Caribou Herd and the Porcupine Caribou Herd" (page II:2339) good or bad? The decision-maker will not know any more about the subject than the EIS tells him. Thus the caribou experts are the only people who can judge whether one route would

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continued footnote
total energy use for construction of each system, expressed in BTUs; amount of gravel borrow required; induced employment and population growth; new permanent and temporary road construction; and construction costs per unit of gas delivered to the lower 48 states.

be less harmful to caribou than the others. Their expertise is also needed to rate the severity of the projected adverse effects of each of the alternatives. The experts on other wildlife species and vegetation must make similar judgments in their fields, as must the soils, pipeline safety, water quality, socio-economic, etc., experts contributing to the study. These people must all be required to make judgments within their particular fields of expertise, and the judgments must be tabulated and presented as the basis for comparing alternative routes.

The value assigned to each separate factor must be determined by the decision-maker, and he must undertake to weigh all the factors, including economic costs, in resolving the issue. But he cannot operate at all on the basis of the information contained in this DEIS. He needs to know how seriously bird populations on the Arctic coastal plain will be harmed, in order to balance that and other factors against the added economic cost of choosing a longer route which avoids the plain.

c. The trans-Alaska route proposed by El Paso Alaska deserves considerably more detailed study than is contained in the DEIS. Here, unlike the other alternatives, a sponsor stands ready and willing to actually build such a system. A legal quibble over El Paso's failure to apply for a right-of-way permit does not allow Interior to shirk its duty under NEPA to fully analyze this alternative.

d. The alternative routes studied by the Task Force are limited to those suggested by Arctic Gas. Surely there are other possible routes for a pipeline. The offshore route which avoids the Arctic National Wildlife Range (ANWR) deserves more serious consideration, as does the possibility of shipping Mackenzie Delta gas westward, via an offshore pipeline, and then transporting it south through a trans-Alaska pipeline. It remains Interior's duty not that of applicants, to define and analyze all appropriate alternatives.*/

2. Regional Consideration of the Development of the Arctic North Slope

The DEIS recognizes that this one pipeline cannot be viewed in isolation. It is part of the development of vast hydrocarbon resources underlying the North Slope. Thus, "this pipeline could provide a possible transmission source for other fields, or it could establish a corridor for possible future pipelines."**/ (page 1-24). Therefore, it is imperative, before any decision is made to violate the Arctic National Wildlife Range

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*/ One method of determining an acceptable alternative route is to create a map with overlays to designate various problem areas. For instance, difficult terrain characteristics, and areas of seismic danger would be shaded, as would separate overlays for valuable wildlife habitat, endangered species habitat, areas set aside for protection of wilderness values etc. When all the overlays are superimposed upon one another the lighter areas on the map would be those which affect fewer sensitive areas. Thus the pipeline route should be chosen to follow or connect these lighter areas as much as possible.

**/ In fact the TransAlaska Pipeline Act demands that joint rights of way be used wherever possible. 30 U.S.C. §28 (p).

by construction of a gas pipeline across its entire width, that the foreseeable disastrous effects of allowing an oil pipeline or oil and gas development there also be assessed. This impact statement is deficient until such an analysis is included.

But much more important, the total development of the North Slope is proceeding in such a way that a separate environmental impact statement is required to analyze the total regional impact of the entire program of development.

It is becoming apparent that the whole Arctic coastal plain is a vast hydrocarbon resource, all of which is subject to development pressure. (See pages 1-8, 1-33). Projects of the Federal Government, (development of Naval Petroleum Reserve #4), the state (oil and gas leases in the Beaufort Sea area), and private industry (oil and gas discoveries at Prudhoe Bay and west) are industrializing vast portions of the North Slope, without planning and coordination. Fifty-one of the first sixty-one miles of the Arctic Gas Prime route are included under oil and gas leases. (page 1-260). The DEIS admits that "the present course of development on the Arctic Coastal Plain is frought with hazard simply because there is no plan." (page 1-225). And even though this development is still at an early stage, it is already clear that there is only one sizeable part of the North Slope that remains for protection as a natural area. This is the Arctic National Wildlife Range, and it too is threatened, by the invasion of this pipeline proposal.

Thus within a very short time, the entire course of development of the North Slope will be determined. Regional planning is imperative for rational development of the coastal plain and for protection of the last remaining expanse of arctic coastal wilderness. Under NEPA it is the "continuing responsibility of the Federal Government . . . to improve and coordinate Federal plans, functions, programs, and resources" for the protection of the environment. 42 U.S.C. 4331(b). This statute imposes upon Interior a responsibility to undertake planning for this development now, so that valuable gas resources can be made available, without destroying forever the possibility of protecting the wilderness values of the ANWR.

Under these circumstances, where the Federal Government has authority over much of the course and pace of development of the North Slope, and where the need for planning on a regional scale has been recognized by Interior, any decision which would drastically affect future development as this pipeline would, must await the preparation of a separate environmental impact statement dealing with the exploitation of the hydrocarbon resources of the entire North Slope. See *Sierra Club* v. *Morton,* 514 F. 2d 856 (D.C. Cir. 1975).

3. *Other legal issues surrounding the pipeline decision*.

a The DEIS recognizes that construction and operation of the proposed Arctic Gas pipeline would destroy the wilderness character of the ANWR. (See e.g. pages 1-484, 1-488, 1-512, 1-513). This area has been proposed for inclusion in the National Wilderness Preservation System, (pages 1-304 and II-890), but construction and operation of the proposed pipeline through the Range would preclude its designation as a wilderness area. Thus this project cannot be permitted to go forward prior to a Congressional decision on the area's wilderness status, under *Parker* v. *U.S.* 309 F. Supp. 593 (D. Colo. 1970), affirmed 448 F. 2d 793, cert. denied 405 U.S. 989. In essence, this case forbids destroying the wilderness potential of an area before the decision is made whether to designate it as a unit of the National Wilderness Preservation System.

b. In addition, while admitting that the pipeline would be incompatible with the expressed purposes of the presently existing Wildlife Range */ (page 1-513; see also Public Land Order 2214, 25 Fed. Reg. 12598 (1960)), the DEIS does not address the legal implications of violating those purposes

c. The possible complications and delays that could be caused by the Canadian native people are barely noted in the DEIS. No mention is made of the fact that a land settlement for the Canadian natives, comparable to our own Alaska Native Claims Settlement Act, is just getting underway, and could delay a trans Canada pipeline for years.

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*/ The FEIS should develop in greater detail the aspects of the proposed pipeline that would be incompatible with the ANWR.

d. The constitutional power of Canadian provinces to tax and possibly appropriate some of the gas is ignored. (See testimony of W. B. Williston, Q.C., before the Federal Power Commission, Docket No. CP75-96, pp. 25-30, 33-38. These factors could affect the costs of the pipeline and possibly the amounts of gas available to the lower 48 states.

4. *Cost Figures*

a. In the near future both Arctic Gas and El Paso Alaska will file revised cost figures at the FPC which will reflect 1975 price levels. In addition, the applicants have filed or will soon file amended applications, reflecting the size of pipeline and the amounts of gas they are currently applying for. These figures should be incorporated into the final impact statement. Also the results of the final version of the Aerospace Corporation Economic and Risk Analysis of the two competing projects should be included. To the extent this study contradicts the optimistic cost figures submitted by applicants, this should be pointed out.

Because in many cases an environmental analysis must provide the basis for a tradeoff between economic and environmental costs, the figures used must be as complete and up to date as possible. And Interior has an obligation not to accept at face value the self-serving data developed and submitted by an applicant.

b. As a further indispensable tool for rational decision-making the impact statement should include a study of the environmental costs and benefits associated with each alternative. The Aerospace Study is, of course, strictly limited to economic costs, and compares only two possible projects. Thus it provides only part of the information necessary to make a decision here.

5. *Winter Construction*

The success of Arctic Gas' mitigation efforts is heavily dependent upon winter construction. During the winter neither the Porcupine Caribou Herd nor migratory birds would be present on the North Slope, and impact on vegetation and soils is less. Winter construction is in turn dependent upon the use of snow and ice roads, and completing construction on schedule. The DEIS analysis of these related problems is inadequate to determine whether snow and ice roads can be successfully built, and whether construction can be completed on schedule.

The DEIS recognizes this deficiency when it recommends that "the entire problem of constructing a pipeline in a hostile environment of the North Slope of Alaska within the time frame of approximately 5 months must be addressed, all contingencies provided for, and ability demonstrated to complete the project to establish chilled gas flow prior to summer thaw . . . . The applicant should provide a logistics and contingency plan for snow and/or ice roads in the event of a minimum snowfall." (page II-1042).

However, the matter certainly cannot be allowed to end there. Indeed, the DEIS admits that Arctic Gas' proposed winter construction schedule is "highly idealistic," and where all-weather roads are unavailable it is "dependent on many variable uncontrollable conditions,*/ and is not considered feasible" (page 1-467). Moreover, "all environmental mitigation measures will be secondary to construction schedules." (page 1-415). The applicant cannot be left to its own devices in developing a contingency plan. The crucial question here is this: what will Interior do when Arctic Gas requests an exception from the conditions of its right-of-way permit? This is almost inevitable, since aside from the idealistic winter construction schedule, the uncertain water supply for building the ice road will likely cause difficulty. Thus the limited alternatives that will be available once the project is underway, i.e. shortcuts on environmental safeguards, or summer construction and an all-weather road, and their drastic consequences for the Arctic, must be addressed now in the environmental impact statement.

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*/ Even in summer Arctic weather is unpredictable. Mention should be made of the difficulties encountered by Alyeska, especially the winds this summer which kept the ice pack close to shore, preventing barge transport of supplies to the North Slope.

6. Common Corridors

The DEIS expresses uncertainty over the cumulative effects of constructing both gas and oil pipelines in the same corridor. (see pages II-2309, 2317, 2336). Resolution of this question affects not only this case but also any other transportation plan that proposes to use a common utility corridor. The doubts must be answered sometime, because common corridors are logical land use solutions and are frequently proposed. They adversely affect less acreage than separate systems, they are usually economical, and the Trans-Alaska Pipeline Act mandates using them wherever possible. Whatever research is required to resolve this issue ought to be undertaken now. This EIS, analyzing a massive project affecting the future of many people and vast quantities of land and resources, will not be complete without a rational analysis of the fundamental preliminary decision that must be made here: whether to traverse untouched wilderness or to compound the damage caused by Alyeska oil pipeline.

7. a. The inadequate design criteria for Arctic and subarctic conditions listed on page 1-411 must be fully addressed by the final EIS. And the lack of detailed information on locations of the route, spoil and borrow areas, storage sites and roads must be remedied to permit formulation and evaluation of specific mitigation measures. (pages 1-409, 1-437).

b. The statement on page 1-86, that foot or motorized vehicles will be used where aerial patrols would adversely affect wildlife is directly contradicted by evidence submitted to the FPC that low flying air planes would be used whenever necessary even within the ANWR.

c. The "proposed ecological preserve sites [which] will be paralleled or crossed, . . . destroying the purpose for which they were set aside" should all be listed in one place for convenient reference, not scattered throughout seventeen volumes. (page 1-374).

d. The apparent contradiction between the statement on page 1-223 that the Arctic tundra is stable and not fragile because it survives, and that on page 1-332 that the Arctic coastal plain is an "extremely fragile environment" must be resolved.

e. The lack of information on the eventual restoration of the production facilities and pipeline corridor sites must be remedied. This is a major omission which bears on the question of the irretrievable commitment of resources at these sites. (page 1-89).

Conclusion

While we recognize that the gas associated with the oil at Prudhoe Bay will be transported to the lower 48 states in some manner, the important question is finding the system with the least environmental, social, and economic costs. We believe that even with its deficiencies the DEIS demonstrates that the Arctic Gas system imposes unacceptable costs. In particular, we believe any system that crosses the Arctic National Wildlife Range will have both short and long term impacts that are incompatible with the purposes of the Range and will irretrievably destroy priceless wilderness areas.

WARREN G. MAGNUSON, WASH., CHAIRMAN
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United States Senate
COMMITTEE ON COMMERCE
WASHINGTON, D.C. 20510

September 29, 1975

Honorable Kent Frizzell
Acting Secretary
Department of the Interior
Washington, D. C. 20240

Dear Mr. Secretary:

Enclosed are my comments on the draft environmental impact statement of the Department of the Interior evaluating the proposed Arctic gas pipeline. I will be unable to attend the public hearings held in Anchorage and would appreciate it if my remarks could be made part of the records.

With best wishes,

Cordially,

TED STEVENS
United States Senator

Enclosure

COMMENTS BY SENATOR TED STEVENS
ON THE ENVIRONMENTAL IMPACT STATEMENT (EIS)
PREPARED BY THE DEPARTMENT OF THE INTERIOR
ON THE ARCTIC GAS PIPELINE PROPOSAL

Mr. Chairman, I am grateful for the opportunity to present my views on the draft Environmental Impact Statement prepared by the Department of the Interior on the Arctic Gas Line proposal.

At the outset, let me make clear that I do not support the Arctic proposal because I believe the trans-Alaska gas pipeline is the best route--not only environmentally but also from the point of view of the United States consumer.

The proposal of Arctic envisions a line which would span 2,600 miles across Alaska (195 miles of the line would be in Alaska) and Canada carrying gas from Alaska's North Slope and Canada's Mackenzie Delta and delivering it to two entry points into the United States; one at Kingsgate, British Columbia, and the other near Monchy, Saskatchewan.

The seven part study, for the most part, was a detailed analysis of this project proposed by Arctic Gas but gave only cursory mention of the all-Alaska gas pipeline route. The reason for this, apparently, was that El Paso Alaska Company had not yet filed for the necessary permits that must be issued by the Department of the Interior to cross the Federal lands involved in the all-Alaska route. El Paso felt, and the Federal Power Commission agreed, that it was not necessary to file for these permits unless El Paso received certification from the FPC. I believe that in the interest of saving valuable time that the draft EIS should have explored both routes in depth. The EPA requires an analysis of all possible alternatives to the proposed Federal action. Obviously, the trans-Alaska route must be examined thoroughly if the alternative is to be objectively reviewed. I am aware of no requirement that an applicant must file for a Federal permit before his proposal becomes the subject of an environmental assessment. If the El Paso application is accepted by the Federal Power Commission the Department of the Interior can then bill the Alaska route applicant for the necessary fees.

I would like to direct the Department of the Interior's attention to the recent case of Alice Henry v. Federal Power Commission decided by the U. S. Court of Appeals for the District of Columbia. The case indicated where two agencies are involved the Environmental Impact Statement of the lead agency can be used by the other department to complete its own analysis. Thus if the El Paso proposal were certified by the FPC and Interior was then called upon to issue rights of way for the trans-Alaska system then Interior could use the FPC's evaluation of the El Paso application as its own, with appropriate analysis and modification. I would therefore urge that the final EIS give equal consideration to both proposals currently before the FPC.

As I mentioned above, one of the reasons for a joint analysis is the time element. American consumers are an integral element of the environment and the time element may well be the most critical element facing them and needs to be weighed carefully. A two year difference in construction may mean the difference between continuous service of gas to our nation's homes and industries or curtailment with its accompanying disastrous side effects. Canada has already indicated that they will curtail all gas and oil exports to the United States by 1978. Only the all-Alaska route offers American consumers, homeowners, and workers a chance of avoiding the detrimental effect of this curtailment.

Another point which must be closely examined in any final Environmental Impact Statement concerns the best utilization of the physical structure designed to transport natural gas from Alaska's North Slope. One projection is that the gas from Prudhoe Bay will flow for 19 years. If there is no new recoverable reserves of gas discovered by this time which could be transported via an existing trans-Canadian line it will lie fallow; its useful life determined by the availability of the natural resource. However, a stationary gas line is only one part of the trans-Alaskan route. An integral part of that system is the super tankers which will be built in America and manned by American crews. It is not unrealistic to expect a useful life from these tankers of 35 years enabling them to be used to transport natural gas from other areas of Alaska not served by the pipeline in future years.

Other areas I have discussed before include the Canadian Native Land Claims problems, the environmental problems raised by crossing the Arctic Wildlife Range and vast expanses of virgin wilderness in Canada, the power of the provinces to tax or obstruct in other ways a gas pipeline running through Canada, the balance of payments questions, the amount of

American labor employees or issues of national security. These issues were not raised because their importance is in any way diminished but because they have been raised before and I wanted to explore some different issues.

LES ASPIN
1st District, Wisconsin

Congress of the United States
House of Representatives
Washington, D.C. 20515

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October 1, 1975

Honorable Kent Frizzell
Acting Secretary
Department of the Interior
18th & C Streets, N.W.
Washington, D.C. 20240

Dear Mr. Frizzell:

The Interior Department's recently completed trans-Canadian pipeline study is probably the longest and most comprehensive environmental impact statement ever written. I would like to take this opportunity to respond, briefly.

The study provides solid evidence that the 6280 mile pipeline should be built in order to easily transport natural gas from Alaska to the continental United States.

I have supported and continue to support the Canadian rather than the Alaskan route because the Canadian route will maximize the amount of natural gas delivered to the mid-West and to Wisconsin. With impending shortages and Wisconsin's dependency on natural gas for its industry, we must move as quickly as possible on the pipeline proposal to insure urgently needed supplies for the mid-Western states.

While the environmental impact statement shows that there will be some adverse effects, it also demonstrates that these environmental hazards can be mitigated and the trans-Canadian pipeline built in an environmentally sound way. The alternative route, across Alaska, requires the transport by tanker of super-cooled, liquified natural gas and involves notable safety hazards.

In light of the findings of the environmental impact statement,

Honorable Kent Frizzell
October 1, 1975
Page 2

I urge you to support the proposed trans-Canadian pipeline.

Sincerely,

Les Aspin
Member of Congress

LA/ll

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Congress of the United States
House of Representatives
Washington, D.C.

MARK ANDREWS
North Dakota

COMMITTEE ON APPROPRIATIONS

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State, Justice, Commerce and Judiciary

October 20, 1975

Alaska Natural Gas Project
Bureau of Land Management
Department of the Interior
Room 1538
Washington, D. C. 20240

ATTENTION: JEWEL BABCOCK

Dear Sir:

It is my understanding that the hearing record for the Alaska Natural Gas Project is being held open until October 28, 1975.

In your environmental impact hearings, I request you give strong consideration to providing North Dakota home consumers and businesses a part of the natural gas that would be piped through the Alaskan Arctic - Northern Border Pipeline, assuming that route is chosen.

The Northern Border Pipeline Company states that this gas will serve 22.5 million people in 20 major metropolitan areas. But the needs of North Dakota must not be ignored.

To deal with this problem, I have been joined by Senator Quentin Burdick of North Dakota and the Montana Congressional Delegation in intervening in the Federal Power Commission proceedings (CP75-96, etal) now underway to determine whether the Alaskan Arctic or a competing route should be approved to carry Alaskan gas to the lower 48 states and how any such approval should be conditioned. Our position as intervenors is clear--if Arctic Gas - Northern Border is granted a certificate of convenience to build the pipeline, it must be conditioned upon North Dakota and Montana firms being allowed to buy a reasonable amount of the gas from the pipeline consortium and receive it from the pipeline at a point in North Dakota and Montana. We will remain firm on this.

It is imperative that the Interior Department review carefully the effect the pipeline will have on North Dakota. State agencies should be actively consulted to make certain that the basic data in the

Page Two

draft is correct, that North Dakota law is complied with and that the projections made accurately state the effect of the proposal on North Dakota.

I am also enclosing a copy of a letter I have received from the Buford-Trenton Irrigation District. I think they make an excellent point and I would strongly urge you to include their remarks when considering the impacts this pipeline will have in this Irrigation District. I strongly urge acceptance of the route proposed in their recommendation which would be near the Lewis and Clark area and which would not result in as harmful effects on the Irrigation District.

I request that my letter be made a part of the hearing record as well as the one from the Buford-Trenton Irrigation District, and I look forward to hearing from you on this matter.

Best personal regards.

Sincerely,

MARK ANDREWS
Congressman for North Dakota

MAjm

Enclosure

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